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International Joint Commission. Activities 1987-1988

International Joint Commission

INTERNATIONAL JOINT COMMISSION ACTIVITIES 1987-1988

International Joint Commission
Canada and the United States

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INTERNATIONAL JOINT COMMISSION ACTIVITIES
1987-1988

International Joint Commission
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THE INTERNATIONAL JOINT COMMISSION

THE International Joint Commission (IJC) was established under the Boundary Waters Treaty of 1909. The Treaty gave the Commission jurisdiction over cases involving the use, obstruction or diversion of waters on either side of the boundary between Canada and the United States that affect the natural level or flow of waters on the other side of the boundary. The Treaty allows the Governments of the United States and Canada to use the Commission as an independent, fact-finding mechanism to carry out studies on questions or matters of difference involving the rights of either country along their common frontier. The guiding principle of those who negotiated the Boundary Waters Treaty was that solutions to certain problems should be sought, not just in the normal bilateral negotiations of diplomacy, but in the deliberations of a permanent, unitary institution composed equally of members from the United States and Canada.

The IJC consists of three Canadian and three United States Commissioners, with a co-chairperson from each country. The Canadian members of the Commission are appointed by the Governor in Council of Canada and the United States members are appointed by the President with the advice and consent of the U.S. Senate. The Commission conducts its business as a single unitary body and Commissioners serve, not as national representatives of their respective governments, but as a collegial body seeking common, nonpartisan solutions in the interest of both countries.

Traditionally the Commission's activities fall into two broad categories: (1) Applications and (2) References

APPLICATIONS — The Commission considers and authorizes, with such conditions as may be required, applications submitted under Articles III & IV of the 1909 Treaty for obstructions, uses or diversions of water which affect the natural level or flow of boundary water on the other side of the international boundary or raise the level of transboundary rivers at the boundary.

REFERENCES — The Commission, under Article IX of the Treaty, investigates questions or matters of difference along the common frontier when requested by the Governments of Canada and the United States. In conducting investigations under these references the Commission develops a common fact-finding process and then recommends appropriate action to the governments. The Commission usually has no implementing powers under the reference procedure; rather, the Governments decide whether to accept or act on the Commission's recommendations.

In addition, the Commission often has ongoing responsibilities with respect to applications by monitoring compliance with the terms and conditions set forth in its Orders of Approval which follow from applications. Also, when requested by the two Governments, the Commission monitors and coordinates actions or programs resulting from governmental acceptance of recommendations made by the Commission.

THE INTERNATIONAL JOINT COMMISSION

The technical studies and field work required by the Commission to carry out its functions are performed by binational boards of experts appointed by the IJC. These boards consist of engineers, scientists and other experts whose services are supported by their agencies as well as other public servants and private citizens. Board reports to the Commission are usually released to the public.

ARBITRATION — The Boundary Waters Treaty also makes provision for the Governments to refer any issues to the Commission for binding decision, rather than only for report and recommendations. This provision has yet to be utilized.

The Commission welcomed U.S. Secretary of State George Shultz to a reception held during its 1987 spring Semi-Annual meeting in Washington, D.C..

THE COMMISSIONERS

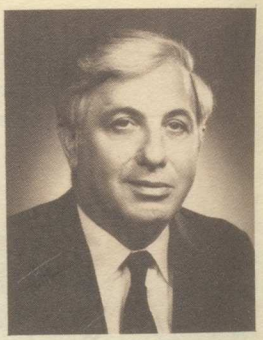
L. Keith Bulen

Commissioner Bulen

L. Keith Bulen was named Commissioner on behalf of the United States to the International Joint Commission in July 1981. In 1987, he retired as a senior member of the law firm of Bulen and Castor.

Mr. Bulen brings valuable experience to the Commission as a former legislator and participant in international advisory bodies. In 1970 and 1973, he served as U.S. Delegate to the Economic and Social Council of the United Nations in Geneva, Switzerland. He served as U.S. Observer to the United Nations Natural Resources Conference in Nairobi, Kenya in 1972.

In 1960, Mr. Bulen was elected to the Indiana House of Representatives and was re-elected the following term. He served as Chairman of the State Courts and Criminal Law Commission, Chairman of the Marion County Delegation and Member of the State Republican Legislative Policy Committee.



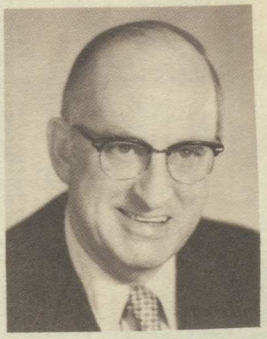
Donald L. Totten

Commissioner Totten

Donald L. Totten was also named Commissioner on behalf of the United States to the International Joint Commission in July 1981. He is president of a public relations and management consulting firm. The Commission is able to draw on Mr. Totten's ability to work in legislative groups and his background as an engineer. Mr. Totten is a former member of the Illinois General Assembly and represented the Third Legislative District just northwest of Chicago from 1972-1982.

Before his legislative career, Mr. Totten was Assistant to the Director of the Department of Transportation for the State of Illinois for two and one-half years. Prior to that, he spent 15 years in the engineering and business fields.

Mr. Totten is past National Chairman of the American Legislative Exchange Council and former Vice Chairman of the Transportation and Commerce Committee of the National Council of State Legislators.



Robert C. McEwen

Chairman McEwen

Robert C. McEwen, a lawyer and former U.S. Congressman from Ogdensburg, New York was named Commissioner on behalf of the United States to the International Joint Commission, in October 1981. In November of 1981 he was elected by the United States Section of the Commission to serve as Chairman of the Section.

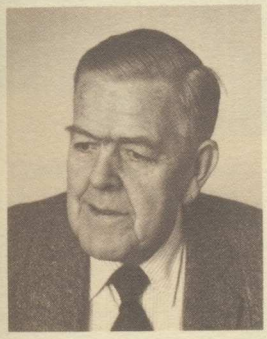
Mr. McEwen brings to the Commission a background which has given him broad experience in Great Lakes issues and U.S.-Canadian affairs. During the eight terms he served in the United States Congress (1965-1980), he represented New York's 30th Congressional District, which then bordered Lake Ontario, the St. Lawrence River and Lake Champlain. He was a member of the U.S. delegation to the Canada-United States Interparliamentary Group and was a member of the steering committee of the Northeast-Midwest Congressional Coalition and the Great Lakes Conference of Congressmen. Prior to his Congressional service, Mr. McEwen was a member of the New York State Senate from 1954 through 1965.

THE INTERNATIONAL JOINT COMMISSION

P.-André Bissonnette

Chairman Bissonnette

Mr. P.-André Bissonnette, Q.C., was named Commissioner on behalf of Canada to the International Joint Commission in February 1985 and was elected Chairman of the Canadian Section. Mr. Bissonnette served as Senior Advisor to the Privy Council from 1982 through 1985. Other positions he has held include: Deputy Solicitor General of Canada; Deputy High Commissioner, London; Deputy Under Secretary of State for External Affairs and Legal Advisor; and Secretary of the Permanent Joint Board on Defense - Canada/United States. As a foreign service officer with the Department of External Affairs he served in Brussels, Paris (NATO), Kuala Lumpur, Rangoon and London. Admitted to the Québec Bar in 1948, he was appointed a Queen's Counsel in 1981.



E. Davie Fulton

Commissioner Fulton

The Honourable E. Davie Fulton, P.C., Q.C., K.C.L.J., was named Commissioner on behalf of Canada to the International Joint Commission in January 1986. He brings to the Commission a long record of public service, starting with volunteer enlistment in the Canadian Army in World War II, serving both as an Infantry Officer in the field and on Divisional Staff. He retired with the rank of Major after the cessation of hostilities in 1945. He was elected a Member of Parliament for Kamloops B.C. in 1945 and was re-elected in six subsequent General Elections, serving from 1945 to 1963 and from 1965 to 1968. In 1957 he was appointed Minister of Justice and Attorney General of Canada, and in that capacity he served also as Chairman of the Canadian Delegation which negotiated the Columbia River Treaty with the United States from 1959 to 1961. In 1962 he was appointed Minister of Public Works and served until the resignation of the Government in 1963.

After 1968 Mr. Fulton moved to Vancouver B.C., where he resumed the practice of law, and in 1970 he was appointed the first Chairperson of The Law Reform Commission of British Columbia, which post he held until 1973. In that year he was appointed Judge of the Supreme Court of British Columbia, and served until his resignation in 1981. Since that time he has been active as director of a number of charitable and welfare organizations in Vancouver, and has also resumed the private practice of law. He is presently Associate Counsel with the firm of Swinton & Company in Vancouver, British Columbia.

Robert S.K. Welch

Commissioner Welch

Mr. Robert S.K. Welch, O.St.J., Q.C., LL.D., was named Commissioner on behalf of Canada to the International Joint Commission in January 1986. Following 11 years of public service at the local level, he was elected to the Ontario Legislature in September 1963 and was a member of the Provincial Parliament until his retirement from active politics in May 1984. During this period, Mr. Welch served in the Cabinet from 1966 to 1985 in many senior portfolios under three premiers. Included in his portfolios were Citizenship, Provincial Secretary, Education, Social

Development , Housing, Attorney General, Culture, Energy, Women's Issues and Government House leader. In September 1977, he was appointed Deputy Premier of Ontario and discharged those responsibilities for 8 years.

Mr. Welch is Chancellor of the Anglican Diocese of Niagara and Chancellor of Brock University.

He is presently Senior Counsel to the Niagara Region law firm of Lancaster, Mix and Welch in St. Catherines, Ontario and resides in Niagara-on-the-Lake.

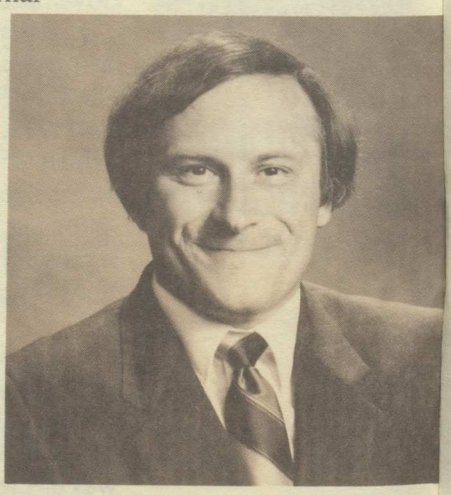
COMMISSION STAFF

The Commission's headquarters in Ottawa, and in Washington, include a secretary as well as a small advisory and support staff in each office. Another office with both Canadian and U.S. staff is located in Windsor, Ontario to assist the Commission with its responsibilities under the Great Lakes Water Quality Agreement. The Director of the Regional Office is a term position which alternates between the United States and Canada every four years. In April of 1987, Dr. Richard L. Thomas left to rejoin the Rivers Research Branch at the Canada Centre for Inland Waters. Lovell Richie delayed his retirement from public service to serve as Acting Director until Dr. Alfred M. Duda was chosen as the new Director. He was appointed in July 1988. Prior to that, he lived in Knoxville, Tennessee, where he worked as an environmental scientist for the Tennessee Valley Authority.

Philip Slyfield

During the International Joint Commission's October 1988 Semi-Annual Meeting in Ottawa, Ontario, the Commission welcomed Mr. Philip Slyfield, who joined the Commission as Secretary to the Canadian Section. Mr. Slyfield was formerly with the Canadian Department of External Affairs and replaced Mr. David Chance who retired after 32 years of public service as Secretary to the Canadian Section. Mr. Chance was only the third Canadian Secretary and served the Commission for almost half of its existence.

On Tuesday, October 4, 1988, the Commission hosted a dinner honoring Mr. Chance. Canadian Co-Chairman P. André Bissonnette read a letter from Prime Minister Brian Mulroney which said in part, "On the occasion of your retirement from the post of Secretary of the Canadian Section of the International Joint Commission, I wish to express to you my deep appreciation for the contribution you have made to Canada, to the IJC, and to effective Canadian-American relations. . . .You have our deep gratitude for the many years of service you have given to Canada through your work with the International Joint Commission; I wish you a happy, well-earned retirement." Attendance at the dinner included the present six IJC Commissioners, as well as several former Commissioners and many others with whom Mr. Chance had worked in the past.



Alfred M. Duda

Commissioner McEwen thanked David Chance for his 32 years of service at a retirement party in October 1988.

In December, Miss Joan Campbell left the staff of the Canadian Section of the Commission for a secretarial position with the Government of Canada.

IN MEMORIAM

The Commission lost a valued member of its staff when Dr. Fahmy K. Fahmy died of cancer on January 17, 1988. Dr. Fahmy worked as a toxicologist on the Regional Office staff for seven years and served as secretary for several of the Commission's Agreement boards and task forces, including the Great Lakes Science Advisory Board and the Council of Great Lakes Research Managers. At its February Executive Session, the Commission passed a resolution in honour of Dr. Fahmy to recognize his excellent service to the Commission and to the Great Lakes research community.

In October 1987, the Commission's Great Lakes Water Quality Agreement family was shocked and saddened to learn of the sudden death of Bob Manson, who died of a heart attack. Bob was employed by Ohio EPA and was actively involved in enhancing the quality of Ohio's environment. He was assisting the Commission with its plans for the 1987 Biennial Meeting on Great Lakes Water Quality in Toledo, Ohio at the time of his death.

During its meeting with the International St. Lawrence River Board of Control on October 4, 1988, the Commission learned of the passing of a former member of the board. William H. Kennedy gave more than a decade of service to the Commission and to the citizens of the United States and Canada. Through his hard work and great sensitivity to others, Bill earned the friendship and respect of his colleagues in both countries.

GREAT LAKES FLUCTUATING WATER LEVELS

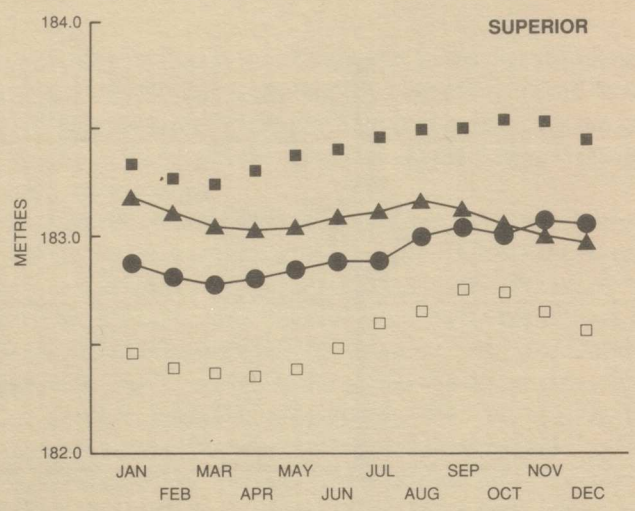
As a result of reduced water supplies to the Great Lakes basin, lake levels in 1987 fell considerably below the record levels set in 1986, with Lake Michigan-Huron experiencing the greatest reduction. By the end of 1988 the levels on all the Lakes were at or very near, their long-term average.

On Lake Ontario, record high inflows from the upper lakes caused 1986 year-end levels to be approximately 1.6 ft (0.5 m) above normal. Given the state of the upper lakes, expectations were for seriously high levels in 1987. Dry weather and favorable ice cover conditions in the St. Lawrence River made it possible to discharge record Lake Ontario outflows at the beginning of 1987. However the unusually dry spring caused water supplies to drop off very quickly after April 1987. This factor, when combined with high Lake Ontario outflows, caused the lake to fall approximately 0.3 ft (10 cm) below average by the end of July. Despite reduced outflows, below average Lake Ontario levels were experienced throughout the late summer and fall months. Combined with low Ottawa River flows and low local basin supplies, this resulted in lower levels downstream of the control works and concern from the recreational boating community and commercial shipping interests. In addition, in the Thousand Island area recreational boaters expressed concern with unexpectedly low water levels throughout the boating season. This trend towards lower water supplies to Lake Ontario continued into 1988, prompting close monitoring of water levels during the year in Lake Ontario, the St. Lawrence River, Lake St. Louis and Montreal Harbour. Lake Ontario peaked in 1988 on May 28th at 74.79 metres (245.36 feet), some 0.04 metres (0.14 feet) below the long-term average. After May, water levels in the International Section of the St. Lawrence River remained above those of 1987. By year end, Lake Ontario was about 4 inches below its long-term average.

INTERIM REPORT ON EMERGENCY MEASURES

As the record high levels were subsiding considerably, the Commission continued work on its August 1, 1986 reference on methods to alleviate the adverse consequences of fluctuating Great Lakes water levels. The reference called upon the Commission to develop an interim report on emergency measures to alleviate problems caused by extreme high water conditions. As 1986 drew to a close, the Commission had appointed an International Task Force composed of IJC staff and various experts, to undertake a technical evaluation of measures which could be implemented within one year. Initially, seven tasks were identified for further study:

1. **LAKE SUPERIOR STORAGE:** To determine if it is technically possible to raise Lake Superior levels above 602.0 feet (182.5 m), and identify the significant physical impacts both on Lake Superior and downstream, and any mitigation measures that may be required. To examine historic Lake Superior water levels.
2. **LAKE ONTARIO/ST. LAWRENCE RIVER:** To determine if it is technically possible to lower Lake Ontario levels by removing or modifying some of the existing constraints on Lake Ontario outflows and identify the significant physical impacts.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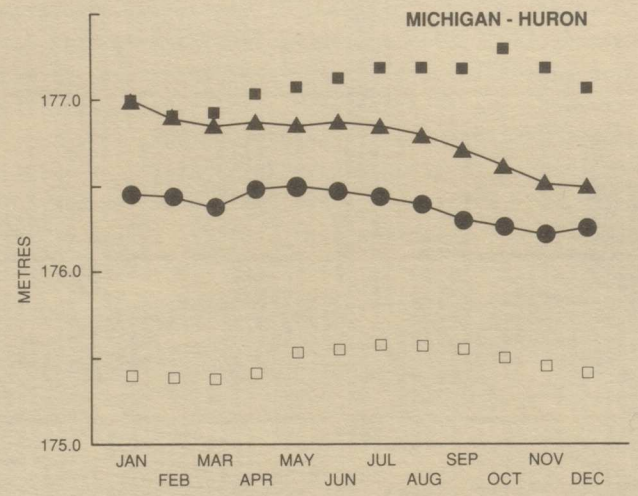
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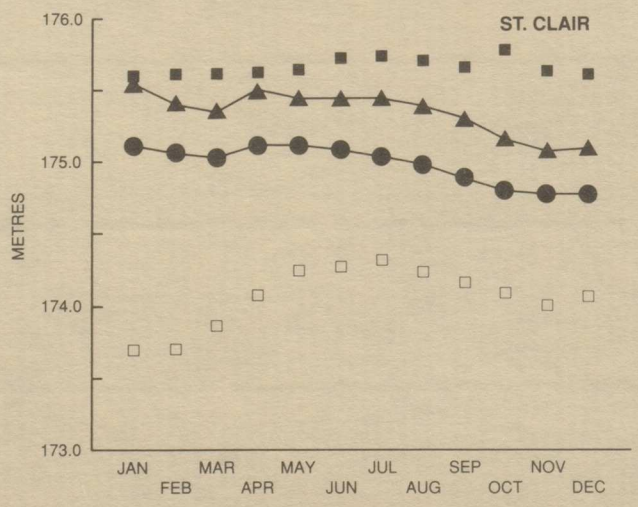
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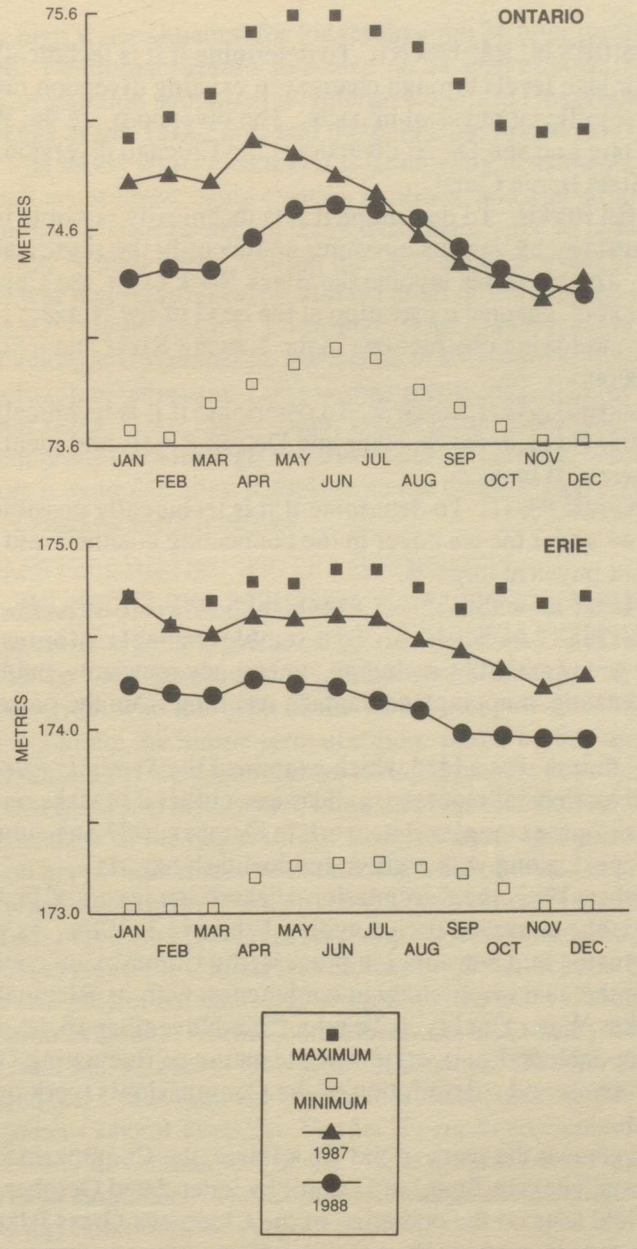


Courtesy of the Great Lakes Water Level Communications Centre, Inland Waters Directorate, Environment Canada

3. **DIVERSIONS MANAGEMENT:** To determine if it is technically possible to lower lake levels through changes in existing diversion rates and identify the significant physical impacts. The diversions are the Welland Canal, the Long Lac and Ogoki diversions, the Chicago diversion, and the New York State Barge Canal.

4. **NIAGARA RIVER:** To determine if it is technically possible to increase Lake Erie outflows by various measures and identify the significant physical impacts. The measures involve the Black Rock Lock, the Chippawa-Grass Island Pool, channel excavation at the head of the Niagara River, and removing or modifying obstructions in the Niagara River and a Squaw Island diversion.

5. **ST. CLAIR/DETROIT RIVERS:** To determine if it is technically possible to modify flows in the St. Clair and Detroit Rivers and identify the significant physical impacts.

6. **ICE MANAGEMENT:** To determine if it is technically possible to improve flows under the ice cover in the connecting channels and identify the significant physical impacts.

7. **INVENTORY OF EMERGENCY MEASURES AND SHORELINE MANAGEMENT ACTIVITIES:** To assemble available information on coastal emergency activities including emergency measures, public information, forecasting, mapping and damage resulting from the present crisis.

An eighth task was added which examined the *Systemic Effects* of various combinations of emergency measures outlined in tasks one through six. The Task Force completed its work in October 1987 and submitted a Summary Report, along with eight individual task reports.

In October, 1987, the Commission released the report of its Task Force for a public comment period ending February 1, 1988. As part of its public information and consultation process, the Commission conducted a workshop on the lake levels study in conjunction with its Biennial Meeting on Great Lakes Water Quality in Toledo, Ohio November 16-18, 1987. The workshop included an overview of the nature of fluctuating Great Lakes water levels and a description of the Commission's work on the study to date.

To supplement the work of the Task Force, the Commission requested its International Niagara Board of Control by letter dated October 13, 1987, to conduct field tests on the operation of the Chippawa-Grass Island Pool Control Structure to evaluate the possible effect of the structure on Lake Erie water levels. The tests were conducted in December, 1987. A report summarizing the results of the tests was submitted to the Commission by its International Niagara Board of Control in May 1988. The Board's analysis did not identify any measurable effect on Lake Erie outflows due to changes in the Pool level. Accordingly, the board recommended that no further tests be carried out until better proven technologies in flow measurement exist.

During July and August 1988, also at the request of the Commission, the U.S. Army Corps of Engineers tested their Black Rock Lock facility at Buffalo, New York to determine whether the lock could be operated in an

emergency high water situation for longer than the 24 hour period previously tested. Preliminary results indicated no adverse effects.

The Commission submitted its Interim Report to Governments based on the findings of the Task Force and the public comments on November 22, 1988. The report concluded that it is technically possible to lower extreme high water levels using existing facilities, and that structural and non-structural coastal zone management techniques exist to reduce the adverse effects of high water. During the 1985-86 high water level crisis, several of these measures were not utilized at all or not utilized to their full capabilities for various reasons. Of primary importance was the lack of agreement amongst Governments and interests on what should be done. The Commission recommended that Governments initiate broad discussions of their use of Great Lakes water, and develop coordinated emergency management plans for both high and low water conditions. The Commission's report is available upon request from the Commission's United States and Canadian section offices.

GREAT LAKES FLUCTUATING WATER LEVELS STUDY

The reference also called upon the Commission to undertake a broader study on the adverse consequences of fluctuating Great Lakes and St. Lawrence River water levels, taking into account both high and low water levels. Concurrent with the work of the Task Force, the Commission continued to address the longer-term questions posed by this assignment.

In January, 1987 the Commission invited a number of experts from a variety of disciplines to meet with Commissioners and staff to discuss the broad implications of the request from Governments. In April, 1987, the Commission approved a directive containing a set of broad instructions and an institutional mechanism to undertake the comprehensive study. A Steering Committee was created comprising two lead Commissioners, P. André Bissonnette for Canada and Donald L. Totten for the United States; the two project co-chairmen, originally, Brigadier General Joseph Pratt, Division Engineer, North Central Division, U.S. Army Corps of Engineers, and Ms. Elizabeth Dowdeswell, Regional Director General, Conservation and Protection, Environment Canada; and the two IJC lead staff. Brigadier General Theodore Vander Els replaced General Pratt on August 13, 1987 as Commander of the North Central Division of the U.S. Army Corps of Engineers. The Commission appointed General Vander Els to the Steering Committee on August 17, 1987.

In its directive the Commission created five functional groups, as the essential elements of the Project Management Team, to assist with various aspects of the study. Because of the complexity and interrelatedness of the issues the reference addresses, the activities and findings of each functional study group are being integrated closely with those of each of the other study groups. The five functional study groups are:

- **GROUP 1: HYDRAULICS, HYDROLOGY AND CLIMATE**
  This group has the lead responsibility for developing the water level component of the study. Its work will include examining previous

lake regulation studies and providing an assessment of past, present and potential future changes in Great Lakes levels and the factors affecting these levels. This group will develop options for regulatory measures and determine the cost of design, construction and operation of such measures, as well as the costs to offset adverse effects on various interests.

- **GROUP 2: COASTAL ZONE ECOLOGY, RESOURCES, USES AND MANAGEMENT**
  This group will assess the impacts of fluctuating water levels on the coastal zone, including aquatic and terrestrial aspects. As a part of this, it will also review previous studies and determine the effects of fluctuating water levels on the coastal zone, as well as develop schemes for alleviating potentially adverse effects of any regulatory measures that would affect the ecology, resources, uses and management of the coastal zone.
- **GROUP 3: SOCIOECONOMIC AND ENVIRONMENTAL ASSESSMENT**
  This group will analyze and assess socioeconomic and environmental impacts, including significant impacts on interests outside the coastal zone and outside the region. Its responsibilities include reviewing previous studies and undertaking analyses of the socioeconomic and environmental impacts of fluctuating water levels in the basin; assessing impacts in the areas of proposed regulatory measures and developing schemes to alleviate any adverse impacts; and identifying any possible compensatory actions, along with their potential costs.
- **GROUP 4: PUBLIC PARTICIPATION AND COMMUNICATIONS**
  This group is assigned the lead responsibility for developing the public participation and communications program for the reference. This group will initiate development of an information program to be carried out by responsible government agencies and will propose strategies for involving the public in the various studies.
- **GROUP 5: CROSS SYSTEM IMPACT EVALUATION**
  This group ties together the work of the other groups to develop an overall model that evaluates the effects of fluctuating lake levels. The group is focusing on developing a visual situation model or an information display that will provide a bird's eye view of the complexity of the Great Lakes system, the various components and interactions in that system, and where reactions are likely to occur as a result of a given event.

Based on advice from its Project Management Team, the Commission advised Governments by letter dated December 10, 1987, that the magnitude and complexity of the study requires that it be addressed in two phases. Phase I, with a report by the PMT to the Commission in May 1989, will supply a comprehensive framework for the systemic evaluation of measures, a preliminary assessment of the main types of measures, and an outline for the initiative of Phase II. Phase II, with the final report in September 1991, will apply the evaluation procedures in detail to specific selected measures identified in Phase I.

GREAT LAKES FLUCTUATING WATER LEVELS

On Saturday, October 22, 1988, the Project Management Team held a "high tech town meeting" in ten cities throughout the Great Lakes basin to discuss the status of the study and to interact with the general public. Linked by satellite, participants were able to view a live television presentation by members of the Project Management Team and addressed questions to the study team following discussions at each site. The ten cities were: Buffalo, New York; Chicago, Illinois; Duluth, Minnesota; Montreal, Quebec; Owen Sound, Ontario; Potsdam, New York; Sault Ste Marie, Ontario; Toledo, Ohio; Toronto (Oakville), Ontario and Windsor, Ontario.

Elizabeth Dowdeswell and Brigadier General Theodore Vander Els, Project Management Team co-chairpersons, answered questions about the levels reference during the live video teleconference held in ten cities in October 1988.

GREAT LAKES FLUCTUATING WATER LEVELS

As 1988 drew to a close, the study team was focusing on its May 1989 report. It is expected that the report will provide considerable insight on the complexities of the Great Lakes system; and will identify the many interests affected either directly or indirectly by the lake levels, and their diverse options, desires, and sensitivities, and thereby providing a significant challenge for the various levels of government.

At the Commission's semi-annual meeting in October 1988, the Commission reviewed its Order of Approval of January 18, 1984 for the operation and maintenance of the Lake Erie-Niagara River Ice Boom. Based on information and advice of its Niagara Board, the Commission approved a Minute of Decision finding that no changes to the Order are required.

SIGNING OF THE PROTOCOL AMENDING THE GREAT LAKES WATER QUALITY AGREEMENT

THE 1987 Protocol amending the 1978 Great Lakes Water Quality Agreement was the culmination of negotiations between the United States and Canada which began early in 1987, after the International Joint Commission submitted its Third Biennial Report to Governments. Public hearings were held by the Parties in late summer and early fall, and formal negotiations included representatives from the U.S. Department of State and Environmental Protection Agency (EPA), Canadian Department of External Affairs and Environment Canada, as well as public interest group delegates as observers.

The Protocol does not change the purpose, policy and objectives of the 1978 Agreement, which is to restore and maintain the chemical, physical and biological integrity of waters of the Great Lakes Basin Ecosystem, eliminate the discharge of persistent toxic substances, and free the water of several substances that degrade water quality in the lakes. The amendments reflect advances in technology and aim to strengthen the programs and practices laid out in the 1978 Agreement, and to increase accountability for their implementation. Timetables are listed for implementation of specific programs by Governments, who will meet semi-annually to discuss progress and report on these developments to the Commission.

New annexes to the Agreement address atmospheric deposition of toxic pollutants, contaminated sediments, groundwater, nonpoint sources of pollution, and the development of remedial action plans for Areas of Concern and lakewide management plans to control critical pollutants. The Protocol was signed on November 18, 1987 by Canadian Environment Minister Tom McMillan and U.S. EPA Administrator Lee Thomas at an official signing ceremony during the Commission's Biennial Meeting on Great Lakes Water Quality in Toledo, Ohio.

Water Quality Board Programs Committee co-chairperson Ron Shimizu and Water Quality Board co-chairs Elizabeth Dowdeswell and Valdus Adamkus.

GREAT LAKES WATER QUALITY BOARD

The Great Lakes Water Quality Board is the principal advisor to the Commission under the Great Lakes Water Quality Agreement. Since its creation in 1972, the board has provided advice on numerous issues: eutrophication, toxic substances, Areas of Concern and the general health of the Great Lakes Basin Ecosystem.

During 1987-1988, the board's primary focus was on persistent toxic chemicals in the Great Lakes Basin Ecosystem and the resolution of long-standing degradation problems. With the implementation of extensive remedial programs and measures by the jurisdictions, the board reported an overall

improvement in the general health of the ecosystem, especially in regard to eutrophication and a select number of persistent toxic substances. In its report to the Commission, the board confirmed that concentrations of some contaminents have leveled off, although the question remains whether sources have been adequately identified and whether the controls applied to date are sufficient to reduce residue levels of target chemicals to the point that human health and the aquatic ecosystem will be protected and beneficial uses restored.

Considerable attention was devoted to the development of procedures for the preparation and review of Remedial Action Plans (RAPs). The 1987 Protocol requires that RAPs, to be developed and implemented by the various jurisdictions to restore impaired beneficial uses within geographic Areas of Concern, be submitted to the IJC for review and comment at three stages. Guidelines for the preparation of RAPs and review criteria were developed. After considering reviews of submitted RAPs, co-ordinated by the Water Quality Board, the Commission will prepare comments to the two Governments. Several RAPs had been submitted and the review process started by the end of 1988. The Water Quality Board will also monitor and evaluate the process and the effectiveness of individual RAPs.

In response to the signing of the Protocol in November 1987, the board reorganized its working committees and task forces. The Water Quality Programs Committee continues to assist the board in evaluating the progress of the Parties and jurisdictions in implementing programs and meeting their obligations under the amended Agreement. New subcommittees established under the Programs Committee are: the Objectives Evaluation Subcommittee; the Restoration Subcommittee, which has the principal responsibility to coordinate the board's review of remedial action plans, point source impact zones, phosphorous management plans and lakewide management plans; the Surveillance Subcommittee, which will evaluate the implementation of the whole lake components of a bi-national Great Lakes International Surveillance Plan (GLISP), including nearshore areas such as harbours and embayments, general shoreline, and connecting channels; and the Loadings and Sources Subcommittee, which will develop the loading and source component of GLISP, interpret and evaluate loadings data and advise on load reductions within a mass balance context, and review and evaluate the Parties' programs and progress toward the development and implemention of control programs including the degree to which jurisdictional controls are being met.

The board held several workshops to assist it in preparing its 1987 Report to the Commission on Great Lakes Water Quality and in its ongoing work under the Agreement. These included: Chemical Loadings Workshop (Toronto, Ontario on February 18-19, 1987), Pesticide Mapping Workshop (Windsor, Ontario on January 7, 1988), Speciman Banking Roundtable (Detroit, Michigan on February 11, 1988), Tributary Monitoring Workshop (Toledo, Ohio on March 2-4, 1988) and Sediment Technology Transfer Symposium (Burlington, Ontario on October 27-28, 1988). More information about these workshops can be obtained from the Commission's Great Lakes Regional office in Windsor, Ontario.

Science Advisory Board co-chairs Jack Vallentyne and Alfred Beeton, with Board Societal Committee co-chairperson Lynton Caldwell.

GREAT LAKES SCIENCE ADVISORY BOARD

The Great Lakes Science Advisory Board is the scientific advisory body to the International Joint Commission and to the Great Lakes Water Quality Board. Its terms of reference give it responsibility for developing recommendations on all matters related to research and the development of scientific knowledge pertinent to the identification, evaluation, and resolution of current and anticipated problems related to Great Lakes water quality.

In the period 1987-88, the Science Advisory Board changed its committee membership to enhance the use of integrative science in exploring ecosystem approaches to managing human uses of the Great Lakes Basin Ecosystem. As well, a Committee on Health was added to its three standing committees: Societal, Technological, and Ecological.

In recent investigations of persistent toxic chemicals in the Great Lakes Basin Ecosystem, the Science Advisory Board came to a realization that binational problem solving must account for scale. Matters such as global climate change make it clear that the context for the Great Lakes Basin Ecosystem is an even larger ecosystem known as the 'ecosphere' — the biosphere plus its nonliving environs.

The Societal Committee has been investigating the social and economic dimensions of toxic contamination, including the use of economic analysis in the development of remedial action plans. Also, it commissioned a discussion paper on ecosystem ethics and is seeking to identify how an ecosystem ethic would aid the IJC in carrying out its responsibilities.

As a scientific complement to work being done by the Great Lakes Water Quality Board, the Technological Committee is looking closely at pulp-and-paper technologies which show some promise for reducing toxic contaminants in the Great Lakes Basin Ecosystem. The committee also has been investigating problems at the human/machine interface. In the course of these investigations, the committee has found that spills of toxics, such as release of contaminated ballast water from ships, sometimes occur at a scale far exceeding all other sources of contamination.

In June 1988, the Great Lakes Science Advisory Board's Ecological Committee held a workshop with the Great Lakes Fishery Commission's Board of Technical Experts on "Integrity and Surprise." In that forum, the role of scale became even more evident as integrity and surprise were deliberated from standpoints of theory and of management.

In addition, the Ecological Committee has been pursuing a lake trout rehabilitation strategy and investigating what it will take to devise a preservation insurance plan which include measures for protecting locales that might serve as healthy comparison areas in the Great Lakes Basin.

The Health Committee is the Science Advisory Board's newest component. Its terms of reference and membership were approved at the IJC's Semi-Annual Meeting in October 1988. Its focus is on human health in an ecosystem context, as human health is affected by the health of other species. The Health Committee was previously a joint responsibility of the Great Lakes Science Advisory Board and the Great Lakes Water Quality Board.

COUNCIL OF GREAT LAKES RESEARCH MANAGERS (CRM)

The Council of Great Lakes Research Managers functions under the direction of the Co-Chairpersons of the Great Lakes Science Advisory Board. Its general objective is to enhance the ability of the board and the Commission to provide effective leadership, guidance, support, and evaluation of Great Lakes research programs.

The Council has been developing a "Research Needs Report" which will provide an inventory of research pertaining to the Great Lakes Basin Ecosystem and the extent of investment of funds and person-years in those research endeavours. Among other things, the purpose of this work is to ascertain the extent to which research activities in the basin coincide with priorities under the Great Lakes Water Quality Agreement.

As well, the Council has completed a "RAPs Research Needs Report" which reports on deficiencies in science's present capacity to undergird efforts at restoring beneficial uses in Areas of Concern. The limitations of science in demonstrating cause-effect linkages have been a factor in thwarting progress in toxics management. The Council is in the final phases of planning for a workshop to: (1) focus on the technical aspects and the limitations of cause-effect evidence, and (2) explore the management implications for decision making in the face of uncertainty.

FOURTH BIENNIAL REPORT ON GREAT LAKES WATER QUALITY

Article VII, paragraph 3 of the 1978 Great Lakes Water Quality Agreement requires the Commission to make a full report to the Parties and to state and provincial governments no less frequently than biennially concerning progress toward the achievement of the general and specific objectives of the Agreement and an assessment of the programs and measures undertaken pursuant to the Agreement.

In its Fourth Biennial Report under the 1978 Agreement, the Commission assessed the condition of the Great Lakes ecosystem, institutional arrangements and programs for ensuring progress under the Agreement, and research needs of science in support of Agreement programs.

As in its previous biennial reports, the Commission reported that considerable progress has been achieved in many areas related to cleanup of the water quality of the Great Lakes, although some areas still do not meet Agreement objectives. Programs have been implemented by governments to alleviate much of the highly visible pollution from municipal and industrial sources, and in preventing some pollution from shipping sources. Programs to identify sources and to quantify inputs of toxic contaminants to the waters continue, but despite considerable effort, the goal of virtual

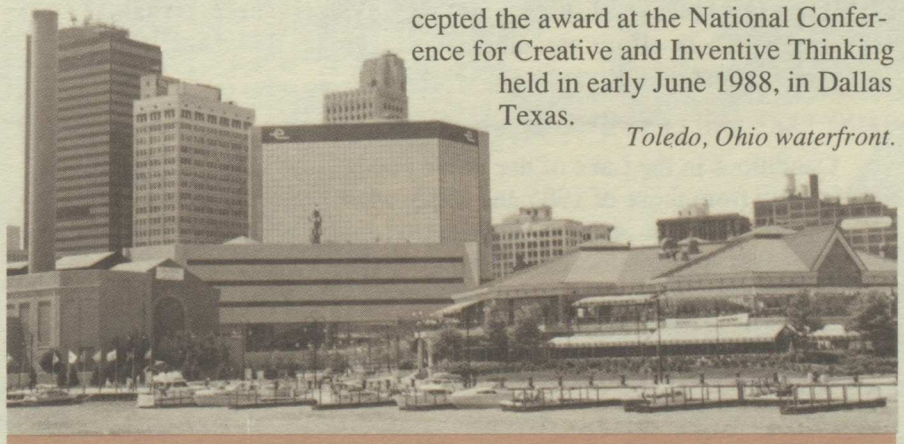
elimination of inputs of persistent toxic substances remains a challenge. The Commission also notes the need for integrated monitoring systems and better data management practices, and recommends further areas of research, particularly those related to human health and risk assessment.

Copies of the Fourth Biennial Report are available from each of the Commission's offices.

1987 BIENNIAL MEETING

More than 600 Canadians and Americans met in Toledo in mid-November 1987 to discuss the state of the Great Lakes Basin Ecosystem and progress being made in restoring the water quality of the largest freshwater system in the world. The International Joint Commission's 1987 Biennial Meeting on Great Lakes Water Quality, held November 16-18, 1987 in Toledo, Ohio included presentations by the Great Lakes Water Quality and Science Advisory Boards, and workshops on four areas of particular interest to the Commission and to residents of the Great Lakes region: fluctuating water levels; integrated monitoring; the Great Lakes Water Quality Agreement; and remedial action plans for Areas of Concern. The Honourable Tom McMillan, Minister of the Environment for the Government of Canada, and the Honorable Lee Thomas, Administrator of the U.S. Environmental Protection Agency, provided keynote speeches during the meeting.

In addition to the formal program, the Commission cosponsored an educational program called the Invention Convention together with Toledo Public Schools. The program is an annual national project which encourages elementary-aged students to create inventions on several topics. In Toledo, more than 300 students from 40 schools created games, products and other inventions that focused on the Great Lakes. Thirty-nine of these inventions were displayed with other exhibits from agencies, citizen organizations and other groups as a part of the meeting's Environmental Exhibition. Each inventor was recognized along with their teacher, school principal and parents during the Biennial Meeting's opening ceremonies. Toledo's 1987 Invention Convention was recognized as one of four outstanding projects in the United States by the U.S. Department of Commerce Patent and Trademark Office. Dick Brunt, Executive Director of Curriculum and Instruction for the Toledo Public Schools, accepted the award at the National Conference for Creative and Inventive Thinking held in early June 1988, in Dallas Texas.



Toledo, Ohio waterfront.

ST. CROIX RIVER

THE St. Croix River forms part of the international boundary separating the State of Maine from the Province of New Brunswick. Through the efforts of its control and advisory boards, the Commission has had a long involvement in water resource issues of the St. Croix River. The St. Croix River Board of Control was established in 1915 and is responsible for supervising the regulation of a number of dams and fishways that affect water levels and flows in the St. Croix River. The Board ensures adherence to the requirements of the Commission's Orders of Approval for dams at Forest City, Vanceboro, Grand Falls, and Milltown. A recurring challenge has been trying to satisfy the level and flow requirements of various user groups of the river, including recreation, tourism, fisheries, industries and municipalities.

In 1961, the Commission recommended water quality objectives for the St. Croix River to the Governments of the United States and Canada. The Governments adopted them and further requested that the Commission continually monitor water quality in the river. To accomplish that task, the Advisory Board on Pollution Control - St. Croix River was established by the Commission in 1962 to report on water quality issues and pollution abatement efforts of industries and municipalities along the river. Since that time, the St. Croix River has changed from a river severely polluted by untreated industrial and municipal discharges to one capable of supporting the restoration of the Atlantic salmon fishery. The first successful upstream migration of Atlantic salmon since the late 1950s was documented in 1982. By 1987, a modest return of salmon was observed.

With some rehabilitation of the St. Croix River fishery having been accomplished, the board has directed its attention to factors which inhibit salmon restoration and to bacterial contamination, which resulted in the closure of a major part of the estuary to commercial shellfish harvesting.

At the Commission's Semi-Annual Meeting in Washington, D.C. April 21, 1988, the Advisory Board reported that five years of work by the St. Croix River Steering Committee on Diadramous Fishery has culminated in a management plan which calls for continued efforts to improve water quality and flow conditions, improvements in upstream and downstream fish passage, continued fish stocking, population monitoring and habitat assessment. Diadramous fish are those which migrate between salt and fresh waters. These efforts are aimed at achieving full management of the fishery of the St. Croix River.

RAINY LAKE AND LAKE OF THE WOODS

Conditions in the Lake of the Woods and Rainy Lake basins changed significantly from those of 1985 and 1986, when concerns centered on the high lake levels due to above average spring runoff and heavy rainfall. In 1987 and 1988, spring runoff conditions were below normal and conditions remained dry throughout the spring and summer months of each year. The levels of Lake of the Woods were below average for the entire period but remained within the level range of full authority of the Canadian Lake of the Woods Control Board.

North fork of the Flathead River. Courtesy of Montana Department of Fish, Wildlife and Parks.

The Canadian Board has sole regulation responsibility as long as the level of the lake remains within the operating band between 1,056 and 1,061 feet above sea level. The total discharge is subject to the approval of the International Lake of the Woods Control Board whenever the lake level rises above or falls below this range.

Rainy Lake basin also suffered from dry conditions in 1987 and 1988. On April 24, 1987, the International Rainy Lake Board of Control informed the Commission that Rainy Lake was only slightly above the emergency conditions level and, based on water supply trends at that time, was projected to go outside its operating band. The Board also informed the Commission that conditions in the basin were expected to continue to be very dry. The Board recommended reducing outflows from Rainy Lake until such time as Rainy Lake was within its operating band in order to conserve water under the prevailing critical drought conditions.

The Commission concurred with the Board's recommendation, and on April 29 and May 22, 1987, issued Supplementary Orders to allow for outflows from Rainy and Namakan Lakes below the normal IJC minimum outflows. Although outflows from the lakes were reduced, inflows were not adequate to return lake levels to within the IJC operating band until the end of July and latter part of August for Namakan and Rainy Lakes, respectively. Lake levels generally followed the lower limits of the IJC rule curves for the last quarter of the year.

Dry conditions persisted throughout the spring and summer of 1988 in the Rainy-Namakan Lakes basin. Lake levels on both lakes fell below the Commission's rule curves by mid to late May. Again, the Commission concluded that a reduction in the outflows from Rainy Lake and Namakan Lake below that prescribed in the Commission's Order was required to avoid the occurrence of emergency conditions in the Rainy Lake watershed. On June 24, 1988, the Commission issued a Supplementary Order authorizing reduced outflows from Rainy Lake and Namakan Lake. Despite reduced outflows, lack of inflow due to below normal precipitation resulted in lake levels below the rule curves throughout most of the summer. Heavy precipitation in August and early September resulted in a rapid rise in lake levels, and they returned to the normal range of levels for the last quarter of 1988.

FLATHEAD RIVER

In letters from the Governments of the United States and Canada in December 1984 and March 1985 respectively, the Commission was asked to examine and report on the water quality and quantity of the Flathead River, relating to the transboundary water quality and quantity implications of a proposed open pit coal mine on Cabin Creek, a tributary of the North Fork of the Flathead River. The Reference also asked the Commission to make recommendations that would assist the Governments to ensure provisions of Article IV of the Boundary Waters Treaty of 1909 are honoured. Article IV states, among other things, that waters "shall not be polluted on either side to the injury of health or property on the other."

The Flathead River International Study Board held several meetings in 1987 to direct the study and consider issues for its report. In the spring of 1987, Commissioners Fulton and Totten, on behalf of the Commission, met with the Board in Vancouver for a thorough briefing on progress and in June, Commissioner Fulton made a helicopter and ground tour of the area.

In July 1988, after more than three years of determined work and consensus-building, the board forwarded its report to the Commission with a number of technical committee reports (see Appendix 4.) On July 27-28, 1988, the Board held public meetings to explain the contents of these reports in Cranbrook, British Columbia, and Kalispell, Montana. Commission hearings were held in these cities September 21-22, 1988 in order to provide for public comment prior to the Commission preparing its report to Governments. In addition, a large number of written submissions were received from all over North America. Only the submission of the Sage Creek Coal Company supported the proposed mine development.

In writing its report to Governments, the Commission noted several points upon which there had been general consensus, but also emphasized that, despite considerable study, uncertainty characterized a number of important concerns. These included groundwater flows between the mine site and the creeks, with concomitant concern about toxic levels of nitrogen components, temperature changes and dissolved oxygen levels. The Commission noted that extensive additional studies would be needed to resolve these uncertainties if they could be resolved at all. Further, it noted that there were other uncertainties which could never be set aside totally, such as the conclusion of the board that there was an unknown but potential risk of extreme or unusual events occurring such as the failure of waste dumps and ponds.

One of the critical aspects of the location of the proposed mine was that it rests astride two creeks that form a significant component of the remaining available spawning and rearing habitat for prime game fish in the Flathead basin, the Bull Trout and, to a less critical degree, Westslope Cutthroat Trout and Mountain Whitefish. The Commission concluded that damage would inevitably occur to this habitat and that the mine as described would have consequences to the fishery constituting a breach of Article IV, noting that Article IV does not require that pollution itself cross the boundary. In such cases it further noted that there is a mutual obligation to protect a fishery that migrates between the United States and Canada by a range of management practices in both countries which will ensure that the provisions of the treaty will be honoured jointly.

The Commission stated its belief that when any proposed development project has been shown to create an identified risk of a transboundary impact in contravention of the Treaty, existence of that risk should be sufficient to prevent the development from proceeding. Having in mind the risks and the sentitivity of uses downstream (including Glacier National Park) to environmental changes, the Commission considered the mine proposal to be such a case.

The Commission recommended to Governments that in order to ensure that the provisions of Article IV of the Boundary Waters Treaty are

honoured in the matter of the proposed coal mine at Cabin Creek in British Columbia:

(1) the mine proposal as presently defined and understood not be approved;
(2) the mine proposal not receive regulatory approval in the future unless and until it can be demonstrated that:
    (a) the potential transboundary impacts identified in the report of the Flathead River International Study Board have been determined with reasonable certainty and would constitute a level of risk acceptable to both Governments; and,
    (b) the potential impacts on the sports fishery populations and habitat in the Flathead River system would not occur or could be fully mitigated in an effective and assured manner; and,
(3) the Governments encourage and pursue, with the appropriate jurisdictions, other opportunities for defining and implementing compatible and sustainable development activities and management strategies in the upper Flathead River basin.

Copies of the Commission's report are available on request from the Washington and Ottawa section offices.

OSOYOOS LAKE

Originating in Canada, the Okanagan[1] River is a tributary of the Columbia River and is a source of water for a major portion of the Okanagan fruit-growing area in British Columbia and the Okanagan Valley in Washington State. Osoyoos Lake, the most southerly lake in the system, straddles the international boundary and is of prime importance to agricultural interests in the Osoyoos-Oroville region. The lake further serves as a recreational resource and a source of domestic water supply. The level of the lake is regulated pursuant to an Order of the Commission supervised by a Board of Control.

The regulatory works for Osoyoos Lake consist of a gated concrete and steel control structure on the Okanagan River at Oroville and the river channel, modified by a relatively small amount of dredging to provide adequate discharge capacity from Osoyoos Lake to the control structure.

Construction of new control works began on April 24, 1986 and was completed at the end of 1987, with the exception of the removal of material from the Okanagan River in the area of Tonasket Creek. The new structure replaces the wood and concrete dam which had been built in 1927 to form a log storage pond for the adjacent Zosel Lumber Company Mill. The original dam had deteriorated, causing concerns for its safety. The State of Washington is the owner of the control works, and the Washington Department of Ecology is responsible for its operation and maintenance in accordance with the IJC Order of Approval.

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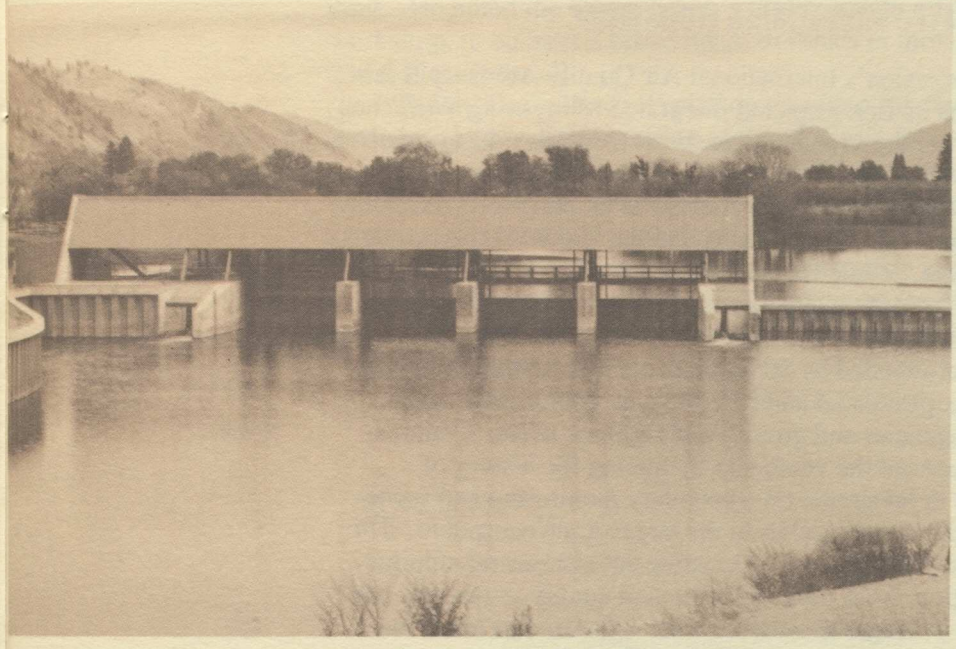
1. Careful readers may have noticed that in the last Activities Report, Okanagan was spelt Okanogan, which is the United States spelling. As the Canadian Section is taking the lead for this activities report, we have used the Canadian spelling.



Osoyoos Lake Dam

Throughout all phases of this development, protection of the existing habitat and native species was of prime concern. The owners and designers worked closely with the State of Washington, Department of Fisheries and Game to identify the sensitive features of the project area and to develop project designs, construction methods and schedules that would minimize disruptive effects. Mitigation measures were planned as part of the development prior to any construction.

Protection of spawning habitat for steelhead and sockeye was of the utmost concern, as was the potential disturbance of migration due to construction activities. Considerable efforts were taken by all involved to ameliorate detrimental effects through appropriate construction timing, provision of fish ladders, and plans for revegetation of the riverbanks which had to be cut back during channel improvement operations.

In addition, attention was also paid to wildfowl habitat in the project area. The site of the new dam was moved from the originally planned location to preserve a large wetland area just upstream from the final dam location, and goose nesting areas near the lake outlet were avoided during dredging disposal.

The new Osoyoos Lake dam was officially named the Zosel Dam in honour of the pioneer Zosel family and their historic contributions to the community. Commissioner E. Davie Fulton attended the dedication ceremonies held on May 14th, 1988 in conjunction with the annual Oroville May Day celebration.

ST. ANDREWS INTEGRATED MONITORING WORKSHOP

THE Commission's International Air Quality Advisory Board hosted its first Regional Integrated Monitoring Workshop in St. Andrews, New Brunswick from May 31 to June 1, 1988. The workshop was the first of a planned series of five regional workshops aimed at further nurturing the concept of an integrated transboundary monitoring network which Canada and the United States might share to mutual advantage. While the concept of integrated monitoring is not new, it is receiving increasing attention as a means of coping with the complexities of environmental issues.

The workshop was attended by 50 participants representing monitoring agencies at the state, provincial and federal level, conservation and resource management agencies and groups, and resource users. Commissioner L. Keith Bulen opened the workshop by tracing the history of Commission initiatives in integrated transboundary monitoring and focusing on the utility of regional approaches in the larger-scale ecosphere. The plenary session featured presentations on existing environmental monitoring programs in the region, from water quantity and quality to forestry and recreational water use. Workgroup sessions were organized to focus more specifically on monitoring programs and needs in the following areas: ecosystems/ vegetation, air, water and management. The first three groups focused on current monitoring programs with respect to their usefulness from a transboundary monitoring perspective and identified gaps or monitoring needs to provide a more integrated and useful network in terms of evaluating the state of human-environment and long-term environment changes across the boundary. The management session focused on monitoring from a user perspective.

Proceedings of the workshop are being prepared and will be available from the Commission's U.S. and Canadian Section Offices. The next Integrated Monitoring Workshop was planned for February 6-8, 1989 in Burlington, Vermont.

ST. CROIX RIVER WORKSHOP

As a result of the initiative of the Advisory Board on Pollution Control - St. Croix River described earlier, the International Joint Commission held a workshop September 29-30, 1987 at St. Andrews, New Brunswick to consider a broad range of issues related to the sharing of resources of the St. Croix River. In addition to members of the Advisory Board on Pollution Control - St. Croix River and the St. Croix River Board of Control, participants included scientists, representatives of the various major users of the river and officials of agencies with management responsibilities for the river.

Commissioner Robert Welch opened the workshop with an address on the history, responsibility and involvement of the International Joint Commission on the St. Croix River. In his remarks, Commissioner Welch observed that while significant steps have been taken over the years in improving the water quality of the St. Croix River, much remains to be

done. He noted the Commission's pleasure with efforts, such as this workshop, to address a broad range of issues in moving towards solutions and decisions for all.

The St. Croix River Workshop provided for discussion and exchange leading to better understanding of the St. Croix River system and the requirements of its various users. Of particular concern was the conflict which exists between some uses of the river, since they compete for the same water resource or exclude other uses by altering the river's water quality or quantity. The exchange of information at the workshop, and the sharing of ideas and concerns, went a long way to clarifying the problems and providing focus for future management options and plans.

APPLICATIONS AND REFERENCES 1912-1988

Under the Boundary Waters Treaty of 1909 and other international arrangements, the IJC generally receives its projects by applications to it for approval of certain activities on boundary or transboundary waters (applications), or by referral to it by the U.S and/or Canadian Government to conduct investigations (references).

- A or R on the chart indicates an application or reference
- The year refers to the date the application or reference was submitted to the IJC.
- The IJC docket number is the official identification number for the purpose of keeping track of the projects.

Docket No.		Title	Action
1912	1A	Rainy River Improvement Co. Kettle Falls Dam	Dismissed as covered by a "special agreement".
	2A	Watrous Island Boom Co. Approved. Boom in Rainy River	No Board.
	3R	Lake of the Woods Levels	Completed. Resulted in the 1925 Convention. Docket under the International Lake of the Woods Board of Control.
	4R	Pollution of Boundary Waters	Completed. Recommendations not implemented.
	5R	Livingstone Channel-Detroit River	Completed. Recommendations implemented.
1913	6A	Michigan Northern Power Company — St. Mary's River Dam (with Docket #8)	Approved. First Board of Control. Docket under the International Lake Superior Board of Control.
	7A	Greater Winnipeg Water District — 100 Million Gallons per Day from Shoal Lake for Winnipeg Water Supply	Approved. No Board.
	8A	Algoma Steel Corporation St. Marys River Dam (with Docket #6)	Approved. Docket under the International Lake Superior Board of Control.
1914	9R	St. Mary and Milk Rivers — Article VI of the Boundary Waters Treaty of 1909	Issued Order in 1921 on measurement and apportionment. Docket under the Accredited Officers for the St. Mary and Milk Rivers.

APPLICATIONS AND REFERENCES 1912-1988

Docket No.		Title	Action
	10A	The St. Croix Water & Power Company — Grand Falls Dam (with Docket #11)	Approved. Amended in 1931 under Docket #28. Docket under the International St. Croix River Board of Control.
1915	11A	Sprague's Falls Manufacturing Company — Grand Falls Dam (with Docket #10)	See above.
1916	12A	International Lumber Company — Construction of a New Boom in Rainy River	Approved. No Board.
	13A	St. Clair River Channel	Approved dredging. No Board.
1918	14A	New York and Ontario Power Company — Waddington Weir	Decision postponed. Proposed site now inundated by St. Lawrence Power Project.
	15A	St. Lawrence River & Power Company — Massena Weir	Approved. Works removed prior to construction of St. Lawrence Power Project.
	16A	Canadian Cottons Limited-Milltown Dam on St. Croix River	Application withdrawn in 1919.
1920	17R	St. Lawrence River Navigation and Power	Completed.
1923	18A	State of Maine Fishways — Fishway in St. Croix River	Approved. Docket under International St. Croix River Board of Control.
1925	19A	New Brunswick Electric Power Commission—Grand Falls Dam on Saint John River	Approved. No Board.
	20R	Rainy Lake Levels	Completed. Led to Convention of 1928. See Docket #50.

Docket No.		Title	Action
	21A	Buffalo and Fort Erie Public Bridge Company — Bridge over Niagara River	Approved. No Board.
1926	22A	Saint John River and Power Company — Grand Falls Dam on Saint John River	Approved. Transfer of approval granted under Docket #19.
1927	23A	Creston Reclamation Company Limited—Dyking of Kootenay River in Canada and Above Kootenay Lake	Approved. Docket under International Kootenay Lake Board of Control.
1928	24A	St. Lawrence River and Power Company — Raise Massena Weir	No Action.
	25R	Trail Smelter Fumes	Completed.
1929	26R	Roseau River Drainage	Completed.
	27A	West Kootenay Power and Light Company, Limited — Kootenay Lake Storage	Withdrawn in 1934.
1931	28A	St. Croix Water Power Company and Sprague's Falls Manufacturing Company — Grand Falls Dam on St. Croix River	Approved raising forebay 1.5 feet. Initial approval in Dockets #10 and #11. Docket under the International St. Croix River Board of Control.
1932	29A	Kootenay Valley Power and Development Company — Dyking on Kootenay River in Canada near Creston	Approved. Docket under International Kootenay Lake Board of Control.
	30	Docket number assigned in error.	Same as #29.
	31A	Madawaska Company — Grand Falls Dam on Saint John River	Denied. Related to claims pursuant to operation under Dockets #10 and #22.

APPLICATIONS AND REFERENCES 1912-1988

Docket	No.	Title	Action
1934	32A	Canadian Cottons Limited— Milltown Dam on St. Croix River	Approved. Docket under International St. Croix River Board of Control.
1935	33A	Jean Larivier — Private Small Dam on Little St. John Lake	Approved. No Board.
	34A	Bruner, P.C. — Dyking on Kootenay River in Canada	Approved. Docket under International Kootenay Lake Board of Control.
1936	35A	Montana Conservation Board — Dam on East Fork of Poplar River	Approved. Dam not built.
	36A	Myrum, George B. — Repair of Prairie Portage Dam	Approved. Repair work on timber dam not implemented.
	37R	Champlain Waterway — Deep Waterway from St. Lawrence to Hudson River See Docket #77	Completed. Recommended new study after St. Lawrence Seaway built.
1937	38A	Richelieu River Remedial Works	Approved. Only control gates installed. Dykes and excavation not implemented. Docket under the International Lake Champlain Board Control.
1938	39A	West Kootenay Power and Light Company Limited — Corra Linn Dam for Kootenay Lake Storage	Approved. Docket under the International Kootenay Lake Board of Control.
1939	40A	United States Forest Service-Prairie Portage Dam	Approval granted to reconstruct dam. Docket under the International Rainy Lake Board of Control.
	41R	Souris River Water Apportionment	Governments approved interim measures recommended by the IJC. Docket under the International Souris River Board of Control.

Docket No.		Title	Action
1940	42A	Creston Reclamation Company, Limited — Dykes along the Kootenay River in Canada	Approved. Docket under International Kootenay Lake Board of Control.
	43A	West Kootenay Power and Light Company, Limited — Additional Two Feet of Storage on Kootenay Lake.	(Dated 1941) Approved for 1 year.
	44A	Grand Coulee Dam and Reservoir — Backwater Raised Water Level in Canada	Approved. Docket under the International Columbia River Board of Control.
1941	45A	West Kootenay Power and Light Company, Limited — Additional Two Feet of Storage on Kootenay Lake	Informal request considered to be unnecessary application.
	46A	City of Seattle — Ross Dam, Skagit River	Approved. Subject matter now covered under the Skagit Treaty which entered into force on December 14, 1984.
1942	47A	West Kootenay Power and Light Company, Limited — Additional Two Feet of Storage on Kootenay Lake	Approved until end of the war.
	48A	Creston Reclamation Company, Limited — Reclamation of Flooded Lands in Duck Lake	Approved. Docket under International Kootenay Lake Board of Control.
	49A	State of Washington — Zosel Dam at Outlet of Osoyoos Lake	Approved. Docket under the International Osoyoos Lake Board of Control. See Docket #108.
	50R	Rainy Lake Watershed — Emergency Conditions in Rainy and Namakan Lakes. Special Jurisdiction Under Convention of 1928.	Completed. Orders issued and subsequently modified to specify rule curves. Docket under International Rainy Lake Lake Board of Control.

APPLICATIONS AND REFERENCES 1912-1988

Docket No.		Title	Action
1944	51R	Columbia River	Completed. Led to Columbia River Treaty.
	52A	Ontario and Minnesota Pulp and Paper Company — Ash Rapids Dam in Lake of the Woods	Approved but not built.
1946	53R	Sage Creek — Apportionment of Waters	Completed. No action by Governments.
	54R	Pollution of St. Clair River, Lake St. Clair and Detroit River and St. Marys River	Completed. Surveillance now covered under the 1978 Great Lakes Water Quality Agreement (amended 1987).
1948	55R	Pollution of Niagara River	Completed. Surveillance now covered under the 1978 Great Lakes Water Quality Agreement (amended 1987).
	56R	Northern States Power Company — number assigned in error	Dealt with under Docket #41.
	57R	Waterton and Belly Rivers — Further Uses and Apportionment of Waters	Studies completed. IJC divided on national lines.
	58R	Souris and Red Rivers — Further Uses and Apportionment of Waters	Completed. International Souris-Red Rivers Engineering Board still reports on its ongoing activities.
	59A	West Kootenay Power Company, Limited—Additional Two Feet of Storage on Kootenay Lake.	Approved for 4 years.
	60R	Passamaquoddy Tidal Power	Completed.
1949	61R	Air Pollution in Windsor-Detroit Area from Vessels	Completed.
1950	62A	Creston Reclamation Company, Limited — Levels of Duck Lake	Approved. Docket under the International Kootenay Lake Board of Control.

APPLICATIONS AND REFERENCES 1912-1988

Docket No.		Title	Action
	63R	Saint John River — Water Resources of the Basin Above Grand Falls	Completed.
	64R	Niagara Falls — Preservation and Enhancement of their Beauty	Completed. Construction of remedial works and operation of control works supervised by the International Niagara Board of Control.
1951	**65A**	Libby Dam and Reservoir	Withdrawn.
	66A	Consolidated Mining & Smelting Company — Waneta Dam on Pend d'Oreille River	Approved. No Board.
1952	**67R**	Lake Ontario Levels	Completed. Studies concurrent with Application under Docket #68.
	68A	St. Lawrence Power	Approved. Docket under the International St. Lawrence River Board of Control.
1954	**69A**	Libby Dam and Reservoir	No decision. Resolved by Columbia River Treaty.
	70A	Creston Reclamation Company, Limited — Modification of 1950 Order on Duck Lake	Approved. Docket under the International Kootenay Lake Board of Control.
1955	**71R**	St. Croix River Use, Conservation, and Regulation	Completed. Pollution aspect still under active surveillance by the International Advisory Board on Pollution Control—St. Croix River.
1956	**72R**	Passamaquoddy Tidal Power	Completed.
1959	**73R**	Rainy River and Lake of the Woods Pollution	Completed. Rainy River still under active surveillance by the International Rainy River Water Pollution Board.
1961	**74R**	Additional Remedial Works above Niagara Falls	Completed. Studies led to application under Docket #75.

APPLICATIONS AND REFERENCES 1912-1988

Docket No.		Title	Action
	75A	Hydro Electric Power Company of Ontario and Power Authority State of New York—Remedial Works above Niagara Falls	Approved. Docket under the International Niagara River Board of Control.
1962	76R	Pembina River — Cooperative Development of Water Resources	Completed. Recommendations not acted upon.
	77R	Champlain Waterway — Commercial Navigation	Completed.
1963	78A	Power Authority State of New York — Shoal Removal, Niagara Falls	Approved. Docket under the International Niagara Board of Control.
1964	79A	Lake Erie-Niagara River Ice Boom	Approved. Docket under the International Niagara Board of Control.
	80A	Vanceboro Dam	Approved. Docket under the International St. Croix River Board of Control.
	81R	Red River Pollution	Completed. Active surveillance by the International Red River Pollution Board.
	82R	Great Lakes Levels	Completed.
	83R	Pollution of Lower Great Lakes	Completed. Led to signing of Great Lakes Water Quality Agreement of 1972.
1966	84A	Cominco — Two Feet Additional Storage on Kootenay Lake	Approved for one season.
	85R	Air Pollution	Completed detailed study of pollution in Detroit-St. Clair River areas. Ongoing activities along the boundary supervised by the International Air Quality Advisory Board.
1967	86R	American Falls-Niagara River	Completed.

APPLICATIONS AND REFERENCES 1912-1988

Docket No.		Title	Action
	87A	Forest City Dam on St. Croix River	Approved. Order void because applicant did not agree to conditions.
1968	88A	Raisin River — Diversion from St. Lawrence River	Approved. Docket under the International St. Lawrence River Board of Control.
1969	89A	Metropolitan Corporation of Greater Winnipeg — Additional diversion from Shoal Lake	IJC action deferred at applicant's request.
	90A	Creston Valley Wildlife Management Area — Duck Lake Levels	Approved. Docket under the International Kootenay Lake Board of Control.
1971	91R	Skagit River — Environmental Consequences of Flooding	Completed.
	92R	Point Roberts — Socio-Economic Considerations	IJC work under the Reference officially terminated in 1977.
	93A	Cominco-Kootenay Lake Storage	Withdrawn.
1972	94R	Pollution of Upper Great Lakes	Completed.
	95R	Pollution of Great Lakes from Land Use Activities	Completed.
	96R	Saint John River Water Quality	Completed.
1972	200R	1972 Great Lakes Water Quality Agreement	Superseded by 1978 Agreement (amended 1987).
1973	97A	U.S. Department of State Emergency Regulation of Lake Superior	No formal action taken on Application. Issues dealt with on an interim emergency basis under Dockets #6 and #8.
	98R	Richelieu-Champlain Regulation	Completed.

APPLICATIONS AND REFERENCES 1912-1988

Docket No.		Title	Action
1975	99R	Air Quality — Michigan and Ontario	Completed 1984. Request received from Governments dated September 30, 1988 to recommence work pursuant to the Reference.
	100A	Toussaint — Causeway	Approved. Docket under the International St. Lawrence River Board of Control.
	101R	Garrison Diversion Project	Completed.
1976	102A	Flood Control Works — Richelieu River	Consideration deferred.
1977	103R	Lake Erie Regulation	Completed.
	104R	Great Lakes Diversions and Consumptive Uses	Completed.
	105R	Great Lakes Technical Information Network	Completed.
	106R	Great Lakes Basin Water Supply, Leves and Flows	Initial Board studies completed.
	107R	Poplar River Water Quality	Completed.
1978	200R	1978 Great Lakes Water Quality Agreement (amended 1987).	Ongoing activities by the Great Lakes Water Quality Board and the Science Advisory Board. Commission reports biennially to Governments.
1981	108A	Osoyoos Dam	Application approved. Construction completed and dedicated May 14, 1988. Docket under International Osoyoos Lake Board of Control.
1982	109A	Grand Falls Diversion Dike Reconstruction—St. Croix River	Approved. Docket under the International St. Croix River Board of Control.
1985	110R	Flathead River	The Commission plan to report with recommendations to Governments in February 1989.

Docket No.		Title	Action
1986	**111R**	Great Lakes Levels	Studies under Phase I are being completed. The Interim Report on 1985-86 High Water Levels in the Great Lakes-St. Lawrence River Basin was submitted to Governments in October 1988.

INTERNATIONAL JOINT COMMISSION BOARDS

INTERNATIONAL AIR QUALITY ADVISORY BOARD

DOCKET: 85

In 1966 the Commission established a board to assist in responding to a request from Governments to take note of air pollution problems occurring in boundary areas (except the Detroit-Windsor and Port Huron-Sarnia areas covered under a separate reference) which might come to its attention and, if considered appropriate, draw such problems to the Governments' attention.

MEMBERS

U.S. Section	Canadian Section
Dr. Lester Machta, Chairman NOAA Environmental Res. Lab.	Dr. James Young, Chairman Environment Canada
Dr. Gary Foley U.S. Environmental Protection Agency	Dr. David Besner New Brunswick Dept. of Municipal Affairs & Environment
Harry H. Hovey, Jr. TRC Environmental Consulting	Dr. D.G. Kelley Ottawa, Ontario

SECRETARIES

Dr. Richard Artz NOAA Air Research Labs	Dr. K.J. Puckett Environment Canada

FORMER MEMBER (1987-1988)

Dr. David Balsillie
Ontario Min. of the Env.

INTERNATIONAL ST. CROIX RIVER BOARD OF CONTROL

DOCKETS: 10, 11, 18, 28, 32, 80, 109

Initially established in 1915 to supervise construction and operation of a dam and power canal at Grand Falls, the Board's duties were expanded to include other matters in the region concerning levels, flows and fishways, including the St. Croix River fishways, and dams at Milltown and Vanceboro.

MEMBERS

U.S. Section	Canadian Section
Colonel Daniel M. Wilson U.S. Army Corps of Engineers	Robert D. McBride Environment Canada

SECRETARY

Donald W. Martin
U.S. Army Corps of Engineers

FORMER MEMBER (1987-1988)

Colonel Thomas A. Rhen
U.S. Army Corps of Engineers

INTERNATIONAL JOINT COMMISSION BOARDS

INTERNATIONAL ADVISORY BOARD ON POLLUTION CONTROL - ST. CROIX RIVER

DOCKET: 71

In 1961 the Governments adopted water quality objectives recommended by the Commission for the St. Croix River and agreed to undertake pollution abatement measures to meet these objectives. The Commission was requested to maintain continuing surveillance over boundary waters pollution through a technical advisory Board.

MEMBERS

U.S. Section

Edward J. Conley, Chairman
EPA Region I

Stephen Groves
Maine Department of Environmental Protection

Alfred Meister
Old Town Maine

Canadian Section

Edward J. Norrena, Chairman
Environment Canada

Dr. Robert H. Cook
Fisheries & Oceans

David R. Silliphant
New Brunswick Department of Municipal Affairs and Environment

SECRETARY

Dr. Peter Eaton
Environment Canada

INTERNATIONAL LAKE CHAMPLAIN BOARD OF CONTROL

DOCKET: 38

The International Joint Commission established the International Lake Champlain Board of Control and charged it with the responsibility of ensuring compliance with the provisions of the Order of Approval dated June 10, 1937, insofar as they relate to the regulation of the levels of Lake Champlain.

MEMBERS

U.S. Section

Colonel F.H. Griffis
U.S. Army Corps of Engineers

Canadian Section

David A. Smith
Environment Canada

FORMER MEMBER

John Bathurst
Environment Canada

INTERNATIONAL ST. LAWRENCE RIVER BOARD OF CONTROL

DOCKET: 68, 88, 100

The Board was established in November 1953 pursuant to the Commission's 1952 Order granting approval to Ontario Hydro and the Power Authority of New York State for the construction, maintenance and operation of works for the development of power in the International Rapids Section of the St. Lawrence River. The Board's duties include the implementation of the Commission's instructions

relating to water levels and regulation of the discharge of water from Lake Ontario and the flow of water through the International Rapids Section of the St. Lawrence River.

MEMBERS

U.S. Section	Canadian Section
Brig. Gen. Theodore Vander Els, Chairman U.S. Army Corps of Engineers	M.A.H. Turner, Chairman Transport Canada
John Bartholomew New York Power Authority	André Carpentier Ministére de l'Environnement du Quebec
Thomas E. Brown New York Dept. of Environmental Conservation	David A. Smith Environment Canada
John W. Spence	Tom Wigle Ontario Hydro

SECRETARIES

Donald J. Leonard U.S. Army Corps of Engineers	G. Reginald Golding Transport Canada

FORMER MEMBERS (1987-1988)

John Bathurst
Environment Canada

C.J.R. Lawrie
Transport Canada

Dr. Daniel J. Palm
St. Lawrence/Eastern Ontario Commission

Brig. Gen. Joseph Pratt
U.S. Army Corps of Engineers

INTERNATIONAL NIAGARA BOARD OF CONTROL

DOCKETS: 64, 75, 78, 79

The Board was established in 1953 to review and approve the design and construction of remedial works at Niagara Falls and to exercise control over the works including the Grass Island pool control structure. Later the Board's responsibilities were expanded to include remedial works extension, shoal removal in the river, and the annual installation and removal of the ice boom at the head of the Niagara River.

MEMBERS

U.S. Section	Canadian Section
Brig. Gen. Theodore Vander Els, Chairman U.S. Army Corps of Engineers	E. Tony Wagner, Chairman Environment Canada

Ronald A. Corso
Federal Energy Regulatory Com.

Maurice G. Lewis
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SECRETARIES

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U. S. Army Corps of Engineers

Peter Yee
Environment Canada

FORMER MEMBER (1987-1988)

Brig. Gen. Joseph Pratt, Chairman
U.S. Army Corps of Engineers

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL

DOCKETS: 6, 8

In 1914 the Commission approved applications by Michigan Power Co. in the U.S. and Algoma Steel Corp. in Canada to divert water for power purposes and to construct a control structure across the St. Mary's River. The Board was established to supervise construction of the control structure (compensating works) and to assume responsibility for regulating Lake Superior levels by implementing plans approved by the IJC governing the discharge of water through the compensating works and the power canals.

MEMBERS

U.S. Section

Brig. Gen. Theodore Vander Els
U.S. Army Corps of Engineers

Canadian Section

E. Tony Wagner
Environment Canada

SECRETARIES

Donald J. Leonard
U.S. Army Corps of Engineers

James R. Robinson
Environment Canada

FORMER MEMBER (1987-1988)

Brig. Gen. Joseph Pratt
U.S. Army Corps of Engineers

GREAT LAKES WATER QUALITY BOARD

DOCKET: 200

As principal advisor to the Commission under the 1978 Great Lakes Water Quality Agreement, the Board assists in the exercise of the powers and responsibilities assigned to the Commission under the Agreement relating to the water quality of the Great Lakes, and the assessment of progress made by the Parties toward achieving the goals of the Agreement.

MEMBERS

U.S. Section

Valdas V. Adamkus, Chairman
U.S. E.P.A. - Region V

Canadian Section

Elizabeth Dowdeswell, Chairman
Environment Canada

INTERNATIONAL JOINT COMMISSION BOARDS

Richard Boardman
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Peter C. Myers
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Salvatore Pagano
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Lyman F. Wible
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SECRETARY

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International Joint Commission
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FORMER MEMBERS (1987-1988)

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Warren Tyler
Ohio EPA

Henry G. Williams
New York State Department of Environmental Conservation

GREAT LAKES SCIENCE ADVISORY BOARD

DOCKET: 200

The Science Advisory Board, like the Water Quality Board, is one of the joint institutions designated under the 1978 Great Lakes Water Quality Agreement. The Board provides advice on research and scientific matters to the Commission and the Water Quality Board. Specifically, the Science Advisory Board is responsible for developing recommendations on matters related to research and the development of scientific knowledge pertinent to the identification, evaluation and resolution of current and anticipated problems related to water quality in the Great Lakes basin ecosystem.

MEMBERS

U.S. Section

Dr. Alfred Beeton, Chairman
University of Michigan

Dr. Anders W. Andren
University of Wisconsin

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Dr. John Cairns, Jr.
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Dr. John Edinger
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SECRETARY

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International Joint Commission
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Dr. Peter Campbell
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Dr. Gilles LaRoche
Triple V, Inc., Montreal

Dr. Ruth Levine
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Grace Patterson, Counsel
Canadian Environmental Law Association

Dr. Ruth Reck
General Motors

Catherine Starrs
Environment Canada

INTERNATIONAL JOINT COMMISSION BOARDS

INTERNATIONAL GREAT LAKES LEVELS ADVISORY BOARD

DOCKET: 106

In 1979 the Commission established a Board to assist it in gathering information on matters affecting Great Lakes water supplies, levels and flows and to assist in public information and public involvement. The original Board was disbanded in 1983, and a smaller board was appointed to continue ongoing activities while the Commission reconsidered the Board's role.

MEMBERS

U.S. Section

Dr. Frank Quinn, Chairman
Great Lakes Env. Research Laboratory

Dr. Frank Kudrna
Kudrna Associates

Betty Lou Reed
Office of Congressman Porter

Canadian Section

Michael Garrett
Ontario Ministry of Natural Resources

INTERNATIONAL GREAT LAKES LEVELS PROJECT MANAGEMENT TEAM

DOCKET: 111

On August 1, 1986 the Commission received a reference from governments to examine and report on methods of alleviating the adverse consequences of fluctuating water levels in the Great Lakes and St.Lawrence River Basin. The Commission issued a Directive and established a Project Management Team on April 10, 1987.

MEMBERS

U.S. Section

Brig. Gen. Theodore Vander Els, Chairman
U.S. Army Corps of Engineers

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U.S. Army Corps of Engineers

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Environment Canada

Tony Wagner, Deputy
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Department of Geography
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Alan Clarke
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Dr. Michael Ben-Eli
The Cybertec Consulting Group

Donald F. Parsons
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Kenneth H. Murdock
Study Executive Director
U. S. Army Corps of Engineers

Dr. Andrew Hamilton
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Dr. Murray Clamen
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SECRETARIES

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Rudy Koop
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FORMER MEMBERS (1987-1988)

L. Keith Bulen
International Joint Commission

Brig. General Joseph Pratt
U.S. Army Corps of Engineers

Jean Thie
Environment Canada

Robert S.K. Welch
International Joint Commission

INTERNATIONAL TECHNICAL INFORMATION NETWORK BOARD

DOCKET: 105

In 1977 Governments requested the Commission to provide advice and recommendations on current and future data needs in order to assist Governments in improving Great Lakes meteorological, hydrological, and hydraulic data collection. The Board, established by the Commission in 1979 to assist in this task completed its work in 1984.

MEMBERS

U.S. Section

Harry H. Barnes
U.S.Geological Survey

Dr. Frank Quinn
Great Lakes Env. Research Laboratory

Canadian Section

Brian J. Tait
Fisheries and Oceans Canada

SECRETARY

Ron E. Wilshaw
U.S. Army Corps of Engineers

INTERNATIONAL JOINT COMMISSION BOARDS

INTERNATIONAL RAINY LAKE BOARD OF CONTROL

DOCKETS: 40, 50

Established in 1941 pursuant to the Rainy Lake Convention (1940), the Board now supervises the operation of the International Falls - Fort Francis Dam on the Rainy River and Kettle Falls Dam on Namakan Lake to regulate the levels of Rainy and Namakan Lakes according to regulation plans approved by the Commission.

MEMBERS

U.S. Section

Col. Roger L. Baldwin
U.S. Army Corps of Engineers

Canadian Section

Dale R. Kimmett
Environment Canada

SECRETARIES

Edward Eaton
U.S. Army Corps of Engineers

Rick Walden
Environment Canada

FORMER MEMBER (1987-1988)

Col. Joseph Briggs
U.S. Army Corps of Engineers

INTERNATIONAL RAINY RIVER WATER POLLUTION BOARD

DOCKET: 73

In a report to Governments in 1965 on pollution of the Rainy River and Lake of the Woods, the Commission recommended the adoption of certain water quality objectives and that it be authorized to establish a board to maintain continuing surveillance over the water quality of the Rainy River. Following approval by Governments of the Commission's recommendations, a Board was established to carry out the surveillance activities and to report upon compliance with the recommended objectives.

MEMBERS

U.S. Section

Charles H. Sutfin, Chairman
E.P.A. Region V

Katherine Svanda
Minnesota Pollution Control Agency

Canadian Section

Kim Shikaze, Chairman
Environment Canada

William A. Steggles
Ontario Ministry of the Environment

FORMER MEMBER (1987-1988)

Lovell Richie
Minnesota Pollution Control Agency

INTERNATIONAL LAKE OF THE WOODS BOARD OF CONTROL

DOCKET: 3

The Lake of the Woods Convention (1925) provided for the establishment of a Board with the responsibility for the regulation of the rate of discharge of water from Lake of the Woods when lake levels either exceed or fall below certain prescribed levels. Although the Board is appointed by Governments, it also reports to the IJC.

MEMBERS

U.S. Section

Col. Roger L. Baldwin
U.S. Army Corps of Engineers

Canadian Section

Dale R. Kimmett
Environment Canada

SECRETARIES

Edward Eaton
U.S. Army Corps of Engineers

Rick Walden, Secretary
Environment Canada

FORMER MEMBERS (1987-1988)

Col. Joseph Briggs
U.S. Army Corps of Engineers

INTERNATIONAL RED RIVER POLLUTION BOARD

DOCKET: 81

A Board was established by the Commission in 1969 following approval by Governments of water quality objectives set out in the Commission's 1968 pollution report on the Red River, and approval for the establishment of a water quality monitoring board. The Board provides continuous surveillance of water quality of the Red River at the international boundary.

MEMBERS

U.S. Section

Max Dodson, Chairman
E.P.A. Region VIII

Katherine Svanda
Minnesota Pollution Control Agency

Francis Schwindt
North Dakota State Dept. of Health

Canadian Section

William D. Gummer, Chairman
Environment Canada

Max Morelli
Manitoba Department of Consumer & Corporate Affairs & Environment

Dr. Joseph O'Connor
Manitoba Dept. of Natural Resources

SECRETARY

Ken W. Thompson
Environment Canada

FORMER MEMBER (1987-1988)

Lovell Richie
Minnesota Pollution Control Agency

INTERNATIONAL SOURIS RIVER BOARD OF CONTROL

DOCKET: 41

The Board was established in 1959 to ensure compliance with certain interim measures recommended by the Commission and approved by Governments outlining the rights that Saskatchewan, North Dakota and Manitoba have with respect to the use of waters in the Souris River basin, as well as the rights of Saskatchewan and North Dakota with respect to the waters of Long Creek.

MEMBERS

U.S. Section

Vernon Fahy, Chairman
North Dakota State Water Commission

Col. Roger L. Baldwin
U.S. Army Corps of Engineers

L. Grady Moore
U.S.G.S.

Canadian Section

M. V. Austford, Chairman
Manitoba Department of
Natural Resources

Robert A. Hale
Environment Canada

David L. MacLeod
Saskatchewan Water Corp.

SECRETARY

M. Renouf
Environment Canada

FORMER MEMBERS (1987-1988)

Col. Joseph Briggs
U.S. Army Corps of Engineers

Dale L. Frink
North Dakota State Water Commission

INTERNATIONAL SOURIS-RED RIVERS ENGINEERING BOARD

DOCKET: 58

The Board was established in 1948 pursuant to a Reference from Governments requesting the Commission to investigate and make recommendations on a number of matters including water requirements, further uses, and apportionment. The Board was also asked to prepare plans of mutual advantage to the two countries for the water of the Souris and Red River basins.

MEMBERS

U.S. Section

Bill E. Martin, Chairman
Bureau of Reclamation

Col. Roger L. Baldwin
U.S. Army Corps of Engineers

Verne R. Schneider
U.S. Geological Survey

Canadian Section

Ralph L. Pentland, Chairman
Environment Canada

Brian T. Abrahamson
Agriculture Canada

R. A. Halliday
Environment Canada

SECRETARIES

John Lawson
Bureau of Reclamation

R. D. Hofer
Environment Canada

FORMER MEMBERS (1987-1988)

Robert C. Averett
U.S. Geological Survey

Col. Joseph Briggs
U.S. Army Corps of Engineers

Cynthia Garman-Squier, Secretary
U.S. Department of Agriculture

Darrell D. Mach, Chairman
U.S. Department of the Interior

ACCREDITED OFFICERS FOR THE ST. MARY AND MILK RIVERS

DOCKET: 9

Article VI of the 1909 Boundary Waters Treaty provides for the appointment, by Canada and the United States, of officers in their respective countries for the purpose of jointly carrying out under IJC direction the diversion or apportionment of the waters of the St. Mary and Milk Rivers as specified in the Treaty. An order amplifying Article VI was issued by the Commission in 1921.

MEMBERS

U.S. Section

Philip Cohen
U.S. Geological Survey

Canadian Section

Denis Davis
Environment Canada

FLATHEAD RIVER INTERNATIONAL STUDY BOARD

DOCKET: 110

In April, 1985, the Commission established the Flathead River International Study Board to assist in responding to a request from Governments that the Commission examine into and report upon the water quality and quantity implications of a proposed coal mine development on Cabin Creek in British Columbia. The Board submitted its final report to the Commission in mid 1988. The Commission held information meetings in July, public hearings in September 1988, and signed its report to Governments in December 1988.

MEMBERS

U.S. Section

James A. Posewitz, Chairman
Montana Department of
Fish, Wildlife & Parks

Dr. Abraham Horpestad
Montana Department of Health
and Environmental Services

Dan Kimball
National Park Service

Canadian Section

E. M. Clark, Chairman
Environment Canada

Dr. Peter J. McCart
P. McCart Biological Consultants

Dr. Jonathan O'Riordan
B.C. Ministry of Environment

SECRETARIES

Richard Moy
Montana Water Management Bureau

Dr. Chris H. Pharo
Environment Canada

INTERNATIONAL KOOTENAY LAKE BOARD OF CONTROL

DOCKETS: 23, 29, 34, 39, 42, 48, 62, 70, 90

In 1938, the Commission issued an Order of Approval for the construction of works to regulate Kootenay Lake, and for the establishment of a board to supervise construction and operation of the works. Responsibility for subsequent orders also concerning the regulation of Kootenay and Duck Lakes was given to the Board.

MEMBERS

U.S. Section

Col. Philip L. Hall, Chairman
U.S. Army Corps of Engineers

Jerry L. Hughes
U.S. Geological Survey

Canadian Section

Gordon Tofte, Chairman
Environment Canada

SECRETARY

W. L. Kreuder
Environment Canada

FORMER MEMBERS (1987-1988)

Col. Roger F. Yankoupe, Chairman
U.S. Army Corps of Engineers

Ernest F. Hubbard
U.S. Geological Survey

Hugh M. Hunt
British Columbia Ministry of Environment and Parks

INTERNATIONAL COLUMBIA RIVER BOARD OF CONTROL

DOCKET: 44

The Board was established under the Commission's 1941 Order approving the construction of the Grand Coulee Dam on the Columbia River. The Board was directed to study and advise on the effects of the operation of Grand Coulee Dam and the Franklin D. Roosevelt Lake upon water levels in the Columbia River in Canada and ensure compliance with the 1941 Order.

MEMBERS

U.S. Section

Garald G. Parker, Jr.
U.S. Geological Survey

Canadian Section

Gordon Tofte
Environment Canada

FORMER MEMBER (1987-1988)

Leslie Laird
U.S. Geological Survey

INTERNATIONAL OSOYOOS LAKE BOARD OF CONTROL

DOCKETS: 49, 108

A Commission Order was issued in 1946 specifying that Zosel Dam at the outlet of Osoyoos Lake be altered and operated so that pool elevations above the dam not exceed certain prescribed levels. The Board established pursuant to the order was given the responsibility of ensuring that Zosel Dam be operated according to the provisions of the Order. An Application by the State of Washington was approved by the IJC in 1982 for new control works. Construction of the new works was completed in May 1988 and continues to operate pursuant to the Order under supervision of the Board of Control.

MEMBERS

U.S. Section	Canadian Section
Garald G. Parker, Jr., Chairman U.S. Geological Survey	Gordon Tofte, Chairman Environment Canada
Kris Kaufman Washington State Parks and Recreation Commission	E. M. Clark Environment Canada
Col. Philip L. Hall U.S. Army Corps of Engineers	Dr. Donald Kasianchuk British Columbia Ministry of Environment and Parks

SECRETARIES

Charles H. Swift, III U.S. Geological Survey	W. L. Kreuder Environment Canada

FORMER MEMBERS (1987-1988)

Peter M. Brady
British Columbia Ministry of Environment

Leslie Laird, Chairman
U.S. Geological Survey

Col. Roger F. Yankoupe
U.S. Army Corps of Engineers

LETTERS TO AND FROM GOVERNMENTS

"In the August l, 1986 Reference the Commission was requested to investigate methods of alleviating the adverse consequences of fluctuating water levels in the Great Lakes-St. Lawrence River Basin. As part of that request, the Commission was asked to submit an interim report on short-term measures to alleviate the recent high-water crisis, and a final report fully addressing a long-term strategy for responding to lake level fluctuations, both high and low.

An initial response to the Reference was submitted by letters of November 14 and December 10, l986. This letter constitutes a further response to the Reference and is to inform Governments that the Commission is presently considering a Task Force report on possible crisis measures and intends to report to Governments on such measures early in 1988. This report, in addition to the Commission letters of November 14 and December 10, 1986, will comply with the directive that an interim report be submitted not later than one year from the time when our study board commenced its work - which was in June, 1987.

Regarding the long-term report, however, the Commission has been advised by its principal study group, the Project Management Team, that the magnitude and complexity of the study requires that it be addressed in two phases. Phase I will consist of a comprehensive framework for systemic evaluation of measures, and an outline for the initiatives of Phase II. It is anticipated that this phase can be completed and reported on by May, l989. Phase II will apply the evaluation procedures in detail to specific selected measures identified in Phase I. It is anticipated that this phase, with a final report thereon, will be completed by September, 1991.

The Commission appreciates that this extends beyond the final reporting date of May, 1989 mentioned in the Reference. However, the Commission is satisfied, on the basis of our assessments of the analyses made by the Project Management Team, that the above outline represents the most effective method and earliest dates by which the task you have given us can in fact be completed.

The Commission expects to be in a position to submit, in the near future, a study plan and final cost projections for the studies on the basis above outlined.

A similar letter is being sent to ..."

Text of letters sent by the Secretaries of the International Joint Commission to the Honorable George P. Schultz, Secretary of State for the United States and to the Right Honourable Joe Clark, Secretary of State for External Affairs of Canada, on December 10, 1987.

"The Commission has been advised by its Great Lakes Water Quality Board that the introduction of foreign biological species to the Great Lakes via the discharge of ballast water from ships is a matter of concern. Each ballast water discharge has the potential to introduce exotic species to the Great Lakes waters which can negatively impact on the water quality and integrity of the Great Lakes ecosystem.

The IJC's Science Advisory Board recently considered the issue and unanimously agreed that it is a matter of concern.

We are aware that the Great Lakes Fishery Commission has raised this issue with the Canadian and U.S. Coast Guards. They have urged the Coast Guards to act under authority of the revised Great Lakes Water Quality Agreement to make firm plans leading to the end of the ongoing introduction of exotic organisms to the Great Lakes via ballast water discharge.

The Commission shares the concern expressed by these groups and encourages governments to take action to prevent further introduction of foreign species to the Great Lakes waters from the discharge of vessel ballast waters. The viability of a large number of foreign species introduced in this manner has been demonstrated and the Commission believes that the introductions negatively impact on the water quality and the integrity of the Great Lakes ecosystem.

Under the terms of Annex 6 of the revised Great Lakes Water Quality Agreement, the Coast Guards have the responsibility to "review...practices and procedures regarding waste water and their deleterious effect on water quality, including, as required, studies to determine if live fish or invertebrates in ballast water discharges into the Great Lakes System constitute a threat to the System." We believe that sufficient studies have been conducted to confirm the threat posed to the Great Lakes and that action is required.

A similar letter has been sent to ..."

Text of letters sent by the Secretaries of the International Joint Commission to the Honorable George P. Schultz, Secretary of State for the United States and to the Right Honourable Joe Clark, Secretary of State for External Affairs of Canada, on August 9, 1988.

UNITED STATES DEPARTMENT OF STATE
Washington, D.C. 20520
September 30, 1988

Mr. David LaRoche
Secretary, United States Section
International Joint Commission
2001 S Street, N.W.
Washington, D.C. 20440

Dear Mr. LaRoche:

I am writing to you regarding issues of air quality in the Detroit-Windsor area. As you know, concerns have been expressed on a number of occasions over the potential consequences of emissions from the Detroit municipal solid waste combustion facility currently under construction. In recent months we have also learned of several other proposals for facilities in the Detroit-Windsor area, to burn hazardous chemicals in their production processes, or for commercial waste destruction.

We have pursued our concerns over the potential effects on health and environment in the Detroit-Windsor area from such sources on a case-by-case basis. We believe however that there is a larger question involved. We are concerned at the potential, cumulative effects of emissions of toxic and hazardous substances from incineration facilities, large or small, in the Windsor-Detroit area on air quality on both sides of the international border. The International Joint Commission has had a long and successful history of monitoring and reporting upon air quality in the Detroit-Windsor area and I believe it would be most helpful if the Commission could again play a role in this regard.

I understand that further to the IJC's *Final Report Pursuant to the July 8, 1975 Reference on the State of Air Quality in the Detroit-Windsor and Port Huron-Sarnia Areas,* in 1983, the Commission disbanded the International Michigan-Ontario Air Pollution Board, but that the International Air Pollution Advisory Board (now called the International Air Quality Advisory Board) was continued. While the latter has reported on the Detroit incinerator, for example, it seems to have such a broad range of activities that it would not be able to give detailed attention to a regional problem. The former performed a very useful function, and many of the questions posed in the July 1975 reference which led to its creation are still relevant to the current situation.

I would ask, therefore that the IJC re-commence its work pursuant to the July 1975 reference. In particular, I would wish to see the Commission examine and report upon the actual and potential hazards posed to human health and the environment from airborne emissions in the Detroit-Windsor area. The Government of Canada supports this proposal; I understand that a letter will shortly go forward to the Canadian Section of the IJC on it.

It is, of course, the prerogative of the IJC to establish an appropriate mechanism to carry out this task. I would however ask the Commission to take into account the resource constraints currently facing Governments. Indeed, the Commission may wish to consider a structure similar to the board which carried out the work of the l975 reference, which proved to be quite effective.

I look forward to the IJC's further contributions to our knowledge of this problem, which will help governments deal more effectively with them.

Sincerely,

Robert O. Homme, Acting
Deputy Assistant Secretary
European and Canadian Affairs

THE RT. HON. JOE CLARK, P.C., M.P.
Secretary of State for External Affairs
Ottawa, Ontario K1A OG2
September 30, 1988

Le tres hon. Joe Clark, C.P.,
député Secrétaire d'Etat aux Affaires
extérieures

Mr. Rudy Koop
Acting Secretary, Canadian Section
International Joint Commission
100 Metcalfe Street, 18th floor
Ottawa, Ontario K1P 5M1

Dear Mr. Koop:

I am writing to you regarding issues of air quality in the Windsor-Detroit area. As you know, the Government of Canada has expressed its concerns on a number of occasions over the potential consequences for Canadians of emissions of toxic chemicals from the Detroit Municipal solid waste incinerator currently under construction. In recent months we have also learned of several other proposals for facilities in the Detroit area, (for example, St. Mary's Peerless Cement) to burn hazardous chemicals in their production processes, or for commercial waste destruction.

We have pursued our concerns over the potential effects on the health and environment of Canadians in the Windsor area from such sources on a case-by-case basis. We believe however that there is a larger question involved. We are concerned at the potential cumulative effects of emissions of toxic and hazardous substances from incineration facilities, large or small, in the Windsor-Detroit area on air quality on both sides of the international border. The International Joint Commission has had a long and successful history of monitoring and reporting upon air quality in the Windsor-Detroit area. I believe it would be most helpful if the Commission could again play a role in this regard.

I understand that further to the IJC's *Final Report Pursuant to the July 8, 1975 Reference on the State of Air Quality in the Detroit-Windsor and Port Huron-Sarnia Areas*, in 1983, the Commission disbanded the International Michigan-Ontario Air Pollution Board, but that the International Air Pollution Advisory Board (now called the International Air Quality Advisory Board) was continued. While the latter has reported on the Detroit incinerator, for example, it seems to have such a broad range of activities that it would not be able to give detailed attention to a regional problem. The former performed a very useful function, and many of the questions posed in the July 1975 reference which led to its creation are still relevant to the current situation.

I would ask, therefore that the IJC re-commence its work pursuant to the July 1975 reference. In particular, I would wish to see the Commission examine and report upon the actual and potential hazards posed to human health and the environment from airborne emissions in the Windsor-Detroit area. The Government of the United States supports this proposal; I understand that a letter will shortly go forward to the U.S. Section of the IJC on it.

It is, of course, the prerogative of the IJC to establish an appropriate mechanism to carry out this task. I would however ask the Commission to take into account the resource constraints currently facing Governments. Indeed, the Commission may wish to consider a structure similar to the board which carried out the work of the l975 reference, which proved to be quite effective.

I look forward to the IJC's further contributions to our knowledge of this problem, which will help governments deal more effectively with them.

Yours sincerely,

Joe Clark

"The Protocol amending the Great Lakes Water Quality Agreement, signed in November, 1987, has prompted the International Joint Commission to review its procedures, priorities and work activities, and those of the Agreement institutions. The review was undertaken in the context of the continued evolution of governmental and Commission activities pursuant to their respective responsibilities and functions under the Agreement, and in particular the specific changes in requirements resulting from the recent Protocol.

The Commission has culminated its review by approving an "IJC Policy Statement on Its Approach to the Revised Great Lakes Water Quality Agreement", dated September 14, 1988. A copy of this Statement is enclosed for your information. It identifies areas of work that will be subject to continued, increased or reduced effort by the Commission, its Boards and the Regional Office. Overall, an increase in work load is expected. Consequently, requests for additional resources have already been made through the budgetary processes of both countries.

The Commission wishes to encourage governmental attention to the areas of data quality assessment, co-ordination and the provision to the Commission of data in formats that are readily accessible and suitable to the Commission's analytical requirements. In this regard, the Commission has asked its Great Lakes Water Quality Board to give further consideration to this matter in order to specify more precisely the Commission's data needs.

A similar letter is being sent to..."

Text of letters sent by the Secretaries of the International Joint Commission to the Honorable George P. Schultz, Secretary of State for the United States and to the Right Honourable Joe Clark, Secretary of State for External Affairs of Canada, on October 7, 1988.

IJC POLICY STATEMENT ON ITS APPROACH TO THE REVISED AGREEMENT

The Protocol signed on November 18, 1987 amended the 1978 Great Lakes Water Quality Agreement so as to confer new, specific obligations on the International Joint Commission. The overall workload of the Commission will increase substantially in light of its several new responsibilities to review and evaluate programs of the Parties. The Commission expects that the Parties in consultation with the States and Provinces will also assume greater responsibility for some tasks which previously fell to the Commission, due either to the Protocol itself or to the maturation of functions such as data co-ordination to a degree that the Commission neither needs to nor has sufficient resources to undertake. Consequently, the Commission has assessed its priorities and capacities especially with respect to the work of its Boards and Regional Office, and has agreed on the following statements as to how its resources should be directed.

1. The principal function of the Commission under the Great Lakes Water Quality Agreement is the provision of advice to Governments based largely on technical information and advice from the Great Lakes Water Quality Board and Science Advisory Board whose members serve the Commission in a personal and professional capacity not as representatives of their agencies or employers. The Commission sees as its primary activities therein, the assessment of the state of the Great Lakes, the assessment of the effectiveness of governmental programs to fulfill the Purpose of the Agreement and, more specifically, the analysis of reports and plans prepared pursuant to the Agreement, as a basis for carrying out the specific responsibilities assigned to it and for formulating recommendations for such new or revised programs and other measures as may be required.
2. While these will be the priorities, the Commission will still consider opportunities to suggest, take, and assist with new initiatives as may be needed from time to time. It is the intention of the Commission that once such initiatives have been sufficiently formulated, they would be recommended for, and then be dependent on, the action of Governments.
3. Areas to which additional emphasis must be given by the Commission will include:
   - assessment of Remedial Action Plans, Lakewide Management Plans and point source impact zone designations submitted or otherwise identified by the jurisdictions;
   - assessment of progress in the management of contaminated sediments
   - development of new aspects of surveillance and monitoring including: atmospheric deposition, groundwater, the impairment of beneficial uses, human exposure to toxics, and integrated monitoring;
   - analysis of reports on a number of the above and other issues, to be submitted by Governments, and
   - effective approaches to the identification of research needs, priorities and constraints.
4. Aspects of the Agreement which will continue to receive emphasis by the Commission include:
   - the application of ecosystem approaches;
   - surveillance and monitoring plans to support comprehensive state of the Lakes assessments;
   - a co-ordinated toxic substances strategy (as outlined in the Third Biennial Report), and
   - human health dimensions of all programs.
5. Specific areas of reduced effort by the Commission and its Boards will include:
   - the development of objectives including ecosystem objectives;
   - data quality assessment and its co-ordination except as required to verify the quality of data used by the Boards;
   - ongoing co-ordination of monitoring and surveillance activities;
   - adaptation and verification of discharge data from point and non-point sources to the extent that they are provided in a more suitable format by jurisdictions.

IJC REPORTS FOR 1987-1988

Summary Great Lakes Water Levels Task Force Report, October 1987.

- Task 1 - Lake Superior Storage, October 1987.
- Task 2 - Lake Ontario/St. Lawrence River, October 1987.
- Task 3 - Diversions Management, September 1987.
- Task 4 - Niagara River, October 1987.
- Task 5 - St. Clair/Detroit Rivers, October 1987.
- Task 6 - Ice Management, October 1987.
- Task 7 - Inventory of Emergency Measures and Shoreline Management Activities, Oct. 1987.
- Task 8 - Systemic Effects, October 1987.

Interim Report to Governments on Great Lakes Water Levels, Letter of December 10, 1987.

Interim Report on 1985-86 High Water Levels in the Great Lakes St. Lawrence River Basin, Oct. 1988.

1986 Activities Report International Joint Commission, December 1987.

Flathead River International Study Board Report, June 1988.

- "Proposed Sage Creek Coal Ltd. Project," Mine Development Committee, December 1986.
- "Report on Flathead Lake, Montana," Limnology Task Force, December 1986.
- "Ambient Water Quality Criteria for Selected Variables in the Canadian Portion of the Flathead River Basin, British Columbia, Canada," Water Quality Criteria Subcommittee, May 1987.
- "Technical Report," Water Quality and Quantity Committee, August 1987.
- "Predicted Impacts of the Proposed Sage Creek Coal Limited Mine on the Aquatic and Riparian Resources of the Flathead River Basin, British Columbia and Montana," Biological Resources Committee, October 1987.
- "Water and Associated Socio-Economic Activities in the Flathead River Basin of Southeast British Columbia and Northern Montana," Water Uses Committee, December 1987.

Red River Toxic Profile Study, Prepared for the International Red River Pollution Board, April 1988.

Flathead River International Study Board Supplemental Report, June 1988.

REPORTS UNDER THE GREAT LAKES WATER QUALITY AGREEMENT

Fourth Biennial Report under the Great Lakes Water Quality Agreement of 1978, International Joint Commission, December 1988.

Guidance on Characterization of Toxic Substances Problems in Areas of Concern in the Great Lakes Basin, March 1987.

Summary Report of the Workshop on Great Lakes Atmospheric Deposition, October 1987.

1987 Report on Great Lakes Water Quality, Great Lakes Water Quality Board, November 1987.

Appendix A of the Report of the Great Lakes Water Quality Board: Progress in Developing Remedial Action Plans for Areas of Concern in the Great Lakes Basin, Great Lakes Water Quality Board, November 1987.

1987 Report of the Great Lakes Science Advisory Board, November 1987.

IJC REPORTS FOR 1987-1988

PCBs: A Case Study. Proceedings of a Workshop on Great Lakes Co-ordination Research, February 1988.

An Overview of Contaminated Sediments in the Great Lakes with Special Reference to the International Workshop held at Aberystwyth, U.K., February 1988.

1987 Report of the Aquatic Ecosystem Objectives Committee, March 1988.

Directory of Great Lakes Education Material, Great Lakes Science Advisory Board, March 1987, revised March 1988.

Review of the Research Advisory Board/Science Advisory Board Recommendations and Supporting Reports with IJC and Government Responses 1973 through 1985, March 1988.

Rehabilitation of Lake Ontario: The Role of Nutrient Reduction and Food Web Dynamics, March 1988.

Mass Balancing of Toxic Chemicals in the Great Lakes: The Role of Atmospheric Deposition, Appendix I, May 1988.

Spills: The Human-Machine Interface, June 1988.

Report on Modelling the Loading-Concentration Relationship of Critical Pollutants in the Great Lakes, October 1988.

INTERNATIONAL JOINT COMMISSION MEETINGS

WQB - WATER QUALITY BOARD
SAB - SCIENCE ADVISORY BOARD
IAQAB - INTERNATIONAL AIR QUALITY ADVISORY BOARD

1987

JANUARY

6	Upper Connecting Channels Task Force	WQB	Grossse Isle
6-7	Levels Reference Task Force		Windsor
7	Coordinating Committee on Toxic Chemicals	WQB/SAB	Windsor
8	Toxic Substances Committee	WQB	Windsor
12	Lake Erie Task Force	WQB	Windsor
13	Red River Pollution Board		Denver
13-14	Aquatic Ecosystem Objectives Committee	SAB	Duluth
14	Rainy River Water Pollution Board		Denver
13-15	Levels Reference "Think Tank"		Toronto
13-15	Surveillance Work Group	WQB	Windsor
16	Science Advisory Board Executive Committee		Windsor
21	Municipal Pretreatment Task Force	WQB	Windsor
21-22	Flathead River International Study Board		Spokane

FEBRUARY

3	International Souris River Board of Control		Bismarck
3	Niagara & St. Lawrence Rivers Task Force	WQB	Toronto
6	Lake Ontario Task Force	WQB	Toronto
9-10	Upper Connecting Channels Task Force	WQB	Windsor
10	IJC Public Information Committee		Washington
11	Sediment Subcommittee	WQB	Detroit
17	Societal Committee	SAB	Chicago
18-19	Chemical Loadings Workshop	WQB	Toronto
19-20	Lake Huron Task Force	WQB	Burlington
3-24	Mesotrophic Indicators Work Group	SAB	Windsor
25-27	Human Health Effects Committee	WQB/SAB	Berkeley
25-27	Food Web Workshop	SAB	Burlington

MARCH

3	Science Advisory Board Executive Committee		Windsor
3-4	Water Quality Board		Milwaukee
4	Flathead River International Study Board		Vancouver
4-6	Science Advisory Board		Saginaw Bay
9	Int'l St. Lawrence River Board of Control		Buffalo
10	International Niagara Board of Control		Buffalo
10	International Lake Superior Board of Control		Buffalo
10	Nonpoint Source Committee	WQB	Windsor
10	IJC Public Information Committee		Windsor
10-11	Lake Superior Task Force	WQB	Windsor
11	International Advisory Board on Pollution Control-St. Croix River		Moncton

INTERNATIONAL JOINT COMMISSION MEETINGS

11	Municipal Pretreatment Task Force	WQB	Windsor
11-12	Lake Michigan Task Force	WQB	Windsor
11-12	IJC Executive Meeting		Windsor
2-13	Atmospheric Deposition Monitoring Task Force	WQB	Toronto
17-18	Human-Machine Interface Workshop	SAB	Windsor
19	Assessment Work Group-Sediment Subcommittee	WQB	Windsor
20	Remedial Options Work Group-Sed. Sub.	WQB	Windsor
23	International Air Quality Advisory Board		Washington
25	Data Quality Work Group	WQB	Windsor
25-26	Aquatic Ecosystem Objectives Committee	SAB	Toronto
31-1	Surveillance Work Group	WQB	Windsor

APRIL

1-2	Flathead River International Study Board		Victoria
7	IJC Public Information Committee		Washington
8-10	IJC Semi-Annual Meeting		Washington
8	International St. Lawrence River Board of Control		Washington
8	International Niagara Board of Control		Washington
8	International Lake Superior Board of Control		Washington
15-16	Water Quality Programs Committee	WQB	Windsor
22-24	Human Health Effects Committee	WQB/SAB	Montreal
22-23	Lake Superior Task Force	WQB	Chicago
23	International Rainy Lake Board of Control		Fort Frances

MAY

5	Nonpoint Source Subcommittee	WQB	Windsor
7	Science Advisory Board Executive Committee	SAB	Windsor
8	Societal Committee	SAB	Windsor
11-12	Council of Great Lakes Research Managers		Ann Arbor
12-13	Flathead River International Study Board		Helena
13	Upper Connecting Channels Task Force	WQB	Ann Arbor
14-15	Sediment Subcommittee	WQB	Ann Arbor
18	Public Information Committee		Windsor
20	Pretreatment Task Force	WQB	Windsor
21	International Souris River Board of Control		Lake Darling
27-28	Surveillance Work Group	WQB	Windsor
27-28	Aquatic Ecosystem Objectives Committee	SAB	Ann Arbor

JUNE

1-2	Water Quality Programs Committee	WQB	Windsor
1-2	Public Information Committee		Ottawa
2-3	IJC Executive Meeting		Ottawa
8	Societal Committee	SAB	Windsor
11	Nonpoint Source Subcommittee	WQB	Windsor
16	Corporate Management Committee		Chicago
16-17	Flathead River International Study Board		Spokane
17-18	Water Quality Board		Chicago
17-19	Science Advisory Board		Toronto

23	Lake Ontario Task Force	WQB	Toronto
24	Niagara & St. Lawrence Rivers Task Force	WQB	Bangor
24	International Advisory Board on Pollution Control-St. Croix River		

JULY

9-10	Water Quality Programs Committee	WQB	Windsor
10	Science Advisory Board Executive Committee		Windsor
13	Atmospheric Deposition Monitoring Task Force	WQB	Windsor
13-14	Remedial Options Work Group	WQB	Windsor
15-16	Human Health Effects Committee	WQB/SAB	Niagara-on-the-Lake
20	IJC Public Information Committee		

AUGUST

10-11	Flathead River International Study Board		Vancouver
11	Data Quality Work Group	WQB	Windsor
12-13	International Air Quality Advisory Board		Toronto
17	Remedial Options Work Group	WQB	Green Bay
18	Sediment Subcommittee	WQB	Green Bay
19	Assessment Work Group-Sediment Subcommittee	WQB	Green Bay
20	Surveillance Work Group-Sediment Subcommitte	WQB	Windsor
25-26	Flathead River International Study Board		Spokane
25-26	Council of Great Lakes Research Managers		Windsor
31-1	Levels Reference Project Management Team		Toronto

SEPTEMBER

2-4	International Souris-Red Rivers Engineering Board		On site tour
8	IJC Public Information Committee		Toledo
9	Societal Committee	SAB	Toronto
9-10	IJC Executive Meeting		Toledo
9-10	Water Quality Programs Committee	WQB	Windsor
9-11	Science Advisory Board		Toronto
10-11	Flathead River International Study Board		Spokane
16	International Lake Superior Board of Control		Burlington
16-18	International Rainy Lake Board of Control Meeting with Commission & Staff		Kenora
17	International St. Lawrence River Board of Control		Burlington
17	International Niagara Board of Control		Burlington
21-22	Aquatic Ecosystem Objectives Committee	SAB	Montreal
22-23	International St. Croix River Board of Control		Woodland
22-23	Assessment Work Group Sediment Subcommittee	WQB	Windsor
23-24	Committee on the Assessment of Human Health Effects on Great Lakes Water Quality	WQB/SAB	Montreal
29-30	Flathead River International Study Board		Vancouver
29-31	St. Croix Water Quality Workshop		St. Andrews
30	International Advisory Board on Pollution Control - St. Croix River		St. Andrews

INTERNATIONAL JOINT COMMISSION MEETINGS

OCTOBER

1-2	Surveillance Work Group	WQB	Windsor
1-2	Nonpoint Source Subcommittee	WQB	Ann Arbor
5	IJC Public Information Committee		Ottawa
6	International St. Lawrence River Board of Control		Ottawa
6-8	IJC Semi-Annual Meeting		Ottawa
7-8	Water Quality Board		Ottawa
15	Council of Great Lakes Research Managers		Windsor
23	Science Advisory Board Executive Committee		Windsor
27-28	Water Quality Programs Committee	WQB	Windsor

NOVEMBER

4-6	Flathead River International Study Board		Seattle
8-9	Technology Committee	SAB	Milwaukee
16	Water Quality Board		Toledo
16	Science Advisory Board		Toledo
16-19	Biennial Meeting on Great Lakes Water Quality		Toledo
19-20	Sediment Subcommittee	WQB	Toledo
19-20	Forum for Remedial Action Plan Coordinators		Toledo

DECEMBER

7	IJC Public Information Committee		Washington
8	Nonpoint Source Subcommittee	WQB	Windsor
8-10	IJC Executive Meeting		Washington
9	Water Quality Board		Windsor
14-15	Levels Reference Project Management Team		Toronto
16-17	Flathead River International Study Board		Vancouver

1988

JANUARY

7	Pesticide Mapping Workshop	WQB	Windsor
8	Science Advisory Board Executive Committee		Windsor
12	Research Needs Steering Committee	SAB	Windsor
12	Red River Pollution Board		Winnipeg
13	Rainy River Water Pollution Board		Winnipeg
13-14	Water Quality Board		Washington
19-20	Water Quality Programs Committee	WQB	Toronto
20	Assessment Work Group-Sediment Subcommittee	WQB	Burlington
25-26	IJC Public Information Committee		Windsor
26-27	Ecosystem Objectives Committee	SAB	Detroit
27-29	Flathead River International Study Board		Great Falls
29	Remedial Options Work Group-Sediment Subcommittee	WQB	Chicago

INTERNATIONAL JOINT COMMISSION MEETINGS

FEBRUARY

1-2	Levels Reference. Project Management Team		Toronto
3	International Souris River Board of Control		Winnipeg
4	IJC Executive Meeting		Ottawa
8-9	Sediment Subcommittee	WQB	Toronto
11	Nonpoint Source Subcommittee	WQB	Windsor
11	Specimen Banking Roundtable	SAB	Detroit
17	Data Quality Work Group	WQB	Windsor
17-18	International Air Quality Advisory Board		Toronto
18-19	Surveillance Work Group	SAB	Windsor
23	Levels Reference. Steering Committee		Washington
24-26	Science Advisory Board		Erie
25	Water Quality Programs Committee	WQB	Chicago
29-1	Committee on the Assessment of Human Health Effects on Great Lakes Water Quality	WQB/SAB	Scarborough

MARCH

2-3	Workshop on Epidemiological Consultation	SAB	Scarborough
2-4	Tributary Monitoring Workshop	WQB	Toledo
14	Technological Committee	SAB	Milwaukee
15	IJC Public Information Committee		Windsor
16	Corporate Management Committee		Windsor
16	International St. Lawrence River Board of Control		Chicago
16-17	IJC Executive Meeting		Windsor
18	Water Quality Programs Committee	WQB	Windsor
22-23	Council of Great Lakes Research Managers		Windsor
25	Pre-Treatment Task Force	WQB	Chicago
28-29	Economy Environment Roundtable	SAB	Windsor
30-31	Ecosystem Objectives Committee	SAB	Windsor
30-31	Coastal Zone Management Work Group	WQB	Windsor
30-31	Water Quality Board		Toronto

APRIL

6	Levels Reference. Project Management Team		Chicago
7-8	Levels Reference. Functional Group Co-Chairs		Chicago
8	Science Advisory Board Executive Committee		Windsor
12-14	Flathead River International Study Board		Vancouver
18	IJC Public Information Committee		Washington
19	International Lake Superior Board of Control		Washington
19	International Niagara Board of Control		Washington
19	International St. Lawrence River Board of Control		Washington
19-20	IJC Semi-Annual Meeting		Washington
20	International Souris-Red Rivers Engineering Board		Washington
21	Nonpoint Source Subcommittee	WQB	Windsor
27-28	Levels Ref. Functional Group Co-Chairs		Toronto
29	Water Quality Programs Committee	WQB	Windsor

INTERNATIONAL JOINT COMMISSION MEETINGS

MAY

5-6	Surveillance Work Group	WQB	Windsor
10	IJC Public Information Committee		Windsor
10-11	Flathead River International Study Board		Victoria
10-11	Sediment Subcommittee	WQB	Ann Arbor
16	Municipal Pretreatment Task Force	WQB	Toronto
16	Technological Committee	SAB	Toronto
19	International Souris River Board of Control		Kenosee
24-26	Science Advisory Board		Green Bay
25-26	Levels Reference. Functional Group Co-Chairs		Chicago
26	Corporate Management Committee		Chicago
31-1	Water Quality Programs Committee	WQB	Windsor
31-1	Integrated Monitoring Workshop	IAQAB	St. Andrews

JUNE

1-2	Nonpoint Source Subcommittee	WQB	Grand Bend
2-3	IJC Executive Meeting		Ottawa
7-9	Flathead River International Study Board		Vancouver
13	Levels Reference. Functional Group 1		Windsor
14-16	Workshop on Ecosystem Integrity	SAB	Burlington
15	IJC Public Information Committee		Windsor
16	Levels Reference. Functional Group 4		Windsor
22	Societal Committee	SAB	Toronto
22-23	Ecosystem Objectives Committee	SAB	Long Point
22-23	Water Quality Board		Quebec City
27-28	Levels Reference. Functional Group Co-Chairs		Toronto
28-29	Flathead River International Study Board		Seattle
28-29	Assessment Work Group-Sediment Subcommittee	WQB	Windsor

JULY

7	International Souris River Board of Control		Upham & Souris
7-8	Water Quality Programs Committee	WQB	Montreal
8	Science Advisory Board Executive Committee		Windsor
13	Municipal Pretreatment Task Force	WQB	Columbus
18-19	IJC Public Information Committee		Hamilton
20	Levels Reference. Functional Group 4		Windsor
21	Nonpoint Source Subcommittee	WQB	Windsor
25-26	Levels Reference. Functional Group 2		Windsor
27-28	Remedial Options Work Group-Sediment Subcommittee	WQB	Toronto
27	Flathead River International Study Board		Cranbrook
28	Public Information Meetings		Kalispell

AUGUST

3-4	Assessment Work Group-Sediment Subcommittee	WQB	Windsor
8	Corporate Management Committee		Toronto
9	International Air Quality Advisory Board		Raleigh

INTERNATIONAL JOINT COMMISSION MEETINGS

9	Health Experts	SAB	Toronto
10	Levels Reference. Project Management Team		Toronto
11	Technological Committee	WQB	Chicago
23-24	Council of Great Lakes Research Managers	WQB	Toronto
29-30	Programs Committee	WQB	Chicago
30	Sediment Subcommittee	WQB	Windsor
30-31	Ecosystem Objectives Committee	SAB	East Lansing

SEPTEMBER

1	Levels Reference. Functional Group 1		Ann Arbor
7-9	Levels Reference. Functional Group 5		Washington
2	Levels Reference. Functional Group 4		Washington
13	IJC Public Information Committee		Washington
14-15	IJC Executive Meeting		Washington
15	International St. Lawrence River Board of Control		Niagara Falls
16	International Niagara Board of Control		Niagara Falls
16	International Lake Superior Board of Control		Niagara Falls
21	Flathead Hearing		Cranbrook
22	Flathead Hearing		Kalispell
26	Water Quality Board		Chicago
26-27	Levels Reference. Functional Group 2		Chicago
27	Levels Reference. Functional Group 1		Windsor
29-30	Levels Reference. Project Management Team		Chicago

OCTOBER

3	IJC Public Information Committee		Ottawa
4	International Souris-Red Rivers Engineering Board		Ottawa
4-5	IJC Semi-Annual Meeting		Ottawa
5	Societal Committee	SAB	Ottawa
6	Nonpoint Source Subcommittee and Mini Workshop on Urban Models	WQB	Windsor Windsor
13	International Advisory Board on Pollution Control - St. Croix River		St. Andrews
17-18	Technological Committee	SAB	Toronto
20	Restoration Subcommittee	WQB	Toronto
20	Objective Evaluation Subcommittee	WQB	Toronto
21	Water Quality Programs Committee	WQB	Toronto
22	Great Lakes St. Lawrence Basin Fluctuating Levels Public Forum		Detroit, Duluth, Chicago Sault Ste. Marie, Owen Sound, Windsor, Toledo, Buffalo, Oakville, Potsdam, Montreal
25-28	Sediment Technology Transfer Symposium	WQB	Burlington
26-27	International St. Croix River Board of Control		Woodland
27-28	Levels Ref. FG2 Workshop on Shore Processes		
28	Health Committee	SAB	Windsor
28	Science Advisory Board Executive Committee		Windsor

INTERNATIONAL JOINT COMMISSION MEETINGS

NOVEMBER

15	IJC Public Information Committee		Dearborn
15	Water Quality Board		Dearborn
16	Joint Water Quality/Science Advisory Board		Dearborn
17	Science Advisory Board		Dearborn

DECEMBER

12	Red River Water Quality Objectives Committee		Denver
13	Corporate Management Committee		Washington
13	IJC Public Information Committee		Washington
14-15	IJC Executive Meeting		Washington
15-16	Ecosystem Objectives Committee	SAB	Minneapolis

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